Society of Actuaries

RPEC Response to Comments on Mortality Improvement Scale BB Exposure Draft

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Society of Actuaries
475 N. Martingale Rd., Ste. 600
Schaumburg, IL 60173
Phone: 847-706-3500
Fax: 847-706-3599

Web site: http://www.soa.org

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Section 1. Overview

The Society of Actuary's Retirement Plans Experience Committee (RPEC) released Mortality Improvement Scale BB in exposure draft form in March 2012 and a supplementary Q&A document in May 2012. The SOA solicited comments on the exposure draft through the end of June 2012.

The SOA received a total of 22 comments, many of which were in the form of e-mail messages that focused on one specific topic. A relatively small number of organizations submitted comments on multiple topics in formal letter format. RPEC would like to express its gratitude to those individuals and organizations that responded. The committee believes that the changes to the exposure draft that were prompted by these comments resulted in an improved final report.

The remainder of this document is organized into the following sections:

- Comments regarding exposure draft recommendations
- Comments regarding two-dimensional mortality improvement rates
- Comments regarding the assumed long-term rate
- Comments regarding the cohort convergence period
- Comments regarding generational mortality
- Other comments

Each section (other than the last) is organized into a short background paragraph, a summary of the comments received, RPEC's response to those comments and the resulting changes, if any, made to final Scale BB report.

Section 2. Exposure Draft Recommendations

2.1 Background

Based on the analysis indicating a noticeable degree of mismatch between recently observed mortality improvement rates in the US and Scale AA, RPEC developed an alternative mortality improvement scale, Scale BB, which was based on more current mortality data and more modern actuarial techniques. RPEC made certain statements in the exposure draft either "encouraging" or "recommending" how Scale BB should be applied.

In addition, Scale BB and the two-dimensional rates from which it was developed reflect a single set of assumptions selected by RPEC. Neither the exposure draft nor the Q&A document discussed methodology for modification of the underlying assumptions.

2.2 Summary of Comments Received

Two commenters suggested that the language used in many parts of the exposure draft should be softened. One of these commenters stated that the "strong language" in the exposure draft "will inhibit the actuary's ability to use judgment in any particular situation." Another letter commented that the exposure draft should be "less prescriptive" and that the RPEC should refrain from "strongly encouraging" a particular approach. Specifically in connection with the suggested use of Scale BB, this letter included the comment that "…the statement in the exposure draft that the use of Scale BB as a replacement for Scale AA is 'strongly encouraged' is too strong and does not adequately allow for the exercise of judgment by individual actuaries."

Two letters made reference to the inherent uncertainties surrounding the estimation of future mortality levels in the US. Both commenters felt many of the recommendations in the exposure draft did not adequately take into account the legitimate differences of opinion within the actuarial community, and did not recognize the broad scope of purposes and circumstances that affect the setting of mortality assumptions.

One commenter suggested that RPEC "provide a framework that would permit an actuary to modify the scale by assuming a different ultimate rate of improvement and/or a different time frame to reach it."

One commenter requested that the SOA "avoid strong recommendations" in connection with issues that they (the commenting organization) believed were matters of actuarial discretion, such as the use of generationally projected tables in lieu of static tables, the use of two-dimensional improvement rates and the assumed long-term rate of mortality improvement.

One commenter expressed concern that statements in the exposure draft and the Q&A document could "lead auditors and others to treat Scale BB fully generational as a de facto standard."

2.3 RPEC Response

RPEC's role in the current Pension Mortality Study project is to provide SOA membership with its best analysis of pension-related mortality rates and anticipated trends. Mindful of the resulting influence RPEC has on emerging standards for retirement plan mortality, the committee expended a great deal of time and effort attempting to find the appropriate tone in reporting its findings.

With the exception of two sentences that require some additional clarification (discussed in the next paragraph), the committee believes its usages of words such as "encouraged" and "recommended" were entirely appropriate. For example, RPEC continues to stand by its recommended use of fully generational mortality tables over static approximations, a topic addressed more fully later in this document.

RPEC believes that the statements in the Executive Summary and Section 5.7 of the exposure draft that "strongly encourages the application of Scale BB to calendar year 2000 base mortality rates on a generational basis" might have been misunderstood by certain readers. The intent of this sentence was to encourage users of Scale BB to do so on a generational basis, not for the adoption of Scale BB itself. The committee suspects that this sentence was the source of the (erroneous) statement in one comment letter that claimed that the exposure draft "strongly encouraged …the use of Scale BB as a replacement for Scale AA." RPEC wants to make it clear that it had no intention to make such a representation. In particular, the final paragraph of Section 1.1 of the exposure draft states that:

> *"Scale BB is being released as an interim mortality improvement scale pending completion of the full Pension Mortality Study, anticipated in late 2013 or early 2014. RPEC encourages all actuaries considering the use of Scale BB to review carefully the results summarized in this report."*

Given that Scale BB was intended to be an interim alternative to Scale AA, RPEC selected a methodology and a single set of underlying assumptions that were intended to create a middle-of-the-road basis for projecting future mortality improvements in the US. That being the case, it was never the committee's intention to abrogate an actuary's professional judgment.

The comments related to the use of generationally projected tables in lieu of static tables, the use of two-dimensional improvement rates and the assumed long-term rate of mortality improvement are all addressed separately later in this document.

2.4 Resulting Changes to Final Report

RPEC clarified the potentially misleading sentences. For example, the replacement sentence in Executive Summary of the final report now reads:

> *"Taking into consideration the methodology used to develop Scale BB (Section 5.3) and RPEC's preference for generational projection of mortality over static approximations (Section 7.1), the committee encourages users of Scale BB to do so on a fully generational basis."*

The final report also includes explicit statements regarding the inherently subjective nature of selecting appropriate mortality improvement assumptions. To this end, the committee has added a new Section 7.4, which suggests a framework that could be used by actuaries who wish to consider assumption sets other than those used to develop Scale BB. That framework is based on a set of calendar-year adjustment factors that are applied directly to the two-dimensional rates described in Section 5.2 of the report.

Section 3. Two-Dimensional Mortality Improvement Rates

3.1 Background

The age-only rates in Scale BB were developed from the two-dimensional (age and calendar year) arrays of mortality improvement rates described in Section 5.2 of the exposure draft. These two-dimensional arrays were based on mortality data from the Social Security Administration and methodology developed by the Continuous Mortality Investigation (CMI) Bureau of the Institute and Faculty of Actuaries. The CMI methodology blends historical mortality improvement experience (including age, period and cohort effects) with expectations of future trends.

3.2 Comments Received

Two commenters suggested that two-dimensional mortality improvement scales might imply a potentially misleading level of precision, while another requested additional support for the benefits of using a two-dimensional structure. One commenter noted that the potential benefits of the two-dimensional approach are lessened by RPEC's selection of a relatively short cohort convergence period for the two-dimensional arrays underpinning Scale BB.

3.3 RPEC Response

RPEC's decision to move in the direction of the more complex two-dimensional methodology reflects the committee's belief that the prior age-only mortality improvement scales have not done a good job of projecting historical mortality improvement levels in the US. Figures 3(M) and 3(F) in Section 4.1, for example, display very clear patterns of vertical "period" effects and some 45° patterns of "cohort" effects, but very little indication of any purely horizontal "age" effects. RPEC believes that in addition to enhancing the overall accuracy of retirement plan obligations, the new two-dimensional framework will be very useful in connection with certain cohort-specific applications, such as the pricing of group annuity contracts and longevity risk hedging products.

RPEC acknowledges that its selection of a relatively short, ten-year cohort convergence period in the two-dimensional arrays that underpin Scale BB (along with a flat long-term rate) somewhat diminishes the impact of using a two-dimensional table. Research, currently in progress, into US mortality improvement patterns could indicate that cohort effects longer than the ten years might be appropriate for future mortality improvement scales, in which case the importance of adopting the full two-dimensional mortality improvement framework could become much more significant.

3.4 Resulting Changes to Final Report

There were no changes to the final report that resulted from the comments received on this topic.

Section 4. Comments Regarding the Assumed Long-Term Rate

4.1 Background

The long-term rate of mortality improvement assumption is an important component of the CMI methodology that underpins Scale BB. The two-dimensional arrays of mortality improvement rates from which Scale BB was developed included a flat 1.0% assumption for the long-term rate for all ages less than or equal to 90. The assumed long-term rates grade linearly to zero between ages 90 and 120.

4.2 Summary of Comments Received

Three commenters specifically addressed the shape and level of the long-term rate selected by RPEC. All three referenced comments made by Stephen C. Goss, Chief Actuary of the Social Security Administration (SSA), at the 2012 Enrolled Actuaries meeting. At that meeting (and during subsequent conversations with RPEC), Mr. Goss expressed his concern with both RPEC's selection of a "flat" shape (SSA assumes an "age gradient" with respect to its long-term rates of mortality improvement, with ultimate rates that decrease with increasing age) and the overall level of the long-term rate assumption (the rate used in 2011 for the SSA intermediate cost assumptions was 0.78% averaged over all ages).

Commenters who referenced Mr. Goss's remarks also expressed concern that (1) the 1.0% long-term rate reflected a high level of built-in conservatism, and (2) RPEC did not supply sufficient justification for this assumption. These commenters suggested that the dramatic increases in life expectancies that the US has experienced since the end of World War II have been primarily due to specific factors, the cumulative impact of which might be difficult to replicate in future decades.

In contrast, one commenter provided a number of reasons supporting the position that the pace of mortality improvement in the US will exceed the rates assumed by RPEC "particularly at older ages."

Another commenter thought the 1.0% long-term rate assumption was "reasonable for most ages," but that the downward grading should begin "around attained age 80" rather than after age 90 assumed by RPEC.

One commenter encouraged RPEC to explicitly acknowledge that:

- Estimates of future mortality rates are by their very nature subject to uncertainties;
- Reasonable people may conclude that an ultimate rate other than 1.0% is a reasonable assumption;
- The future level of mortality improvement in the US is subject to debate; and

- The existence of factors (known and unknown) that could affect future changes in US mortality patterns.

4.3 RPEC Response

RPEC acknowledged in the Executive Summary of the exposure draft that there is a wide range of opinion on the topic of future mortality improvement levels in the US, even among experts in the field. The committee reviewed research prepared by both camps of mortality improvement research: the "optimists" who tend to believe that mortality improvement in the US will continue at levels at least as fast as recent history, and the "pessimists" who believe that it will be difficult for the US to replicate the levels of mortality improvement it has experienced over the past 60 years. Given the diversity of opinions, RPEC decided to assign a high level of credibility to the recommendations made by the two most recent Technical Panels on Assumptions and Methods. These Technical Panels are independent groups of expert actuaries, economists and demographers appointed every four years by the Social Security Advisory Board.

As presented in Section 5.6 of the exposure draft and item A7 in the Q&A document, the 2007 Technical Panel recommended a flat 1.0% level of ultimate mortality improvement, and the 2011 Technical Panel implicitly recommended rates that produced even higher life expectancies than those recommended by the 2007 panel. Table 2.1 of "The Long-Range Demographic Assumption for the 2012 Trustees Report" released on April 23, 2012 by the Office of the Chief Actuary of the SSA, shows that the equivalent long-term flat rate of mortality improvement recommended by the 2011 Technical Panel was 1.26% per year.

Considering all of the evidence, RPEC continues to believe that a long-term rate of 1.0% through age 90 (with subsequent reduction to zero at age 120) is a reasonable, middle-of-the-road assumption for future mortality improvement in the US.

Regarding the request for RPEC to explicitly acknowledge the concepts summarized in the four bullet points above, the committee is of the opinion that -- other than the second item -- those issues had already been adequately addressed in various sections of the exposure draft and Q&A documents. The comment related to the possible reasonableness of mortality tables based on long-term improvement rates other than 1.0% was addressed in the "Comments Regarding Exposure Draft Recommendations" section of this document.

RPEC acknowledges that reliable information about long-term mortality improvement in the US is very limited. The committee has commissioned research to further explore this aspect of prospective mortality trend setting, and it hopes that this research will provide new insights that will be useful in the development of future mortality improvement scales in the US.

4.4 Resulting Changes to Final Report

RPEC added some additional commentary to Section 5.5 and the Executive Summary acknowledging the uncertainties surrounding future mortality rates and the concomitant complexity of selecting an appropriate long-term mortality improvement assumption. The committee also added a new Section 7.4, which suggests a framework that could be used by actuaries who want to consider developing two-dimensional arrays based on long-term rates other than those underpinning Scale BB.

The long-term rate assumptions used to develop the two-dimensional arrays upon which Scale BB is based – and Scale BB itself – have been left unchanged.

Section 5. Cohort Convergence Period

5.1 Background

Year-of-birth cohort effects are another important feature of the CMI methodology that underpins Scale BB. The "cohort convergence period" assumption establishes how far into the future the patterns of observed cohort effects are to be extended (before grading entirely into the assumed long-term rate). The two-dimensional arrays of mortality improvement rates from which Scale BB was developed reflect a cohort convergence period of ten years (grading down to five years after age 90), compared to cohort convergence periods of up to 40 years used in the "core" version of the CMI model. This relatively short convergence period, along with an age/period convergence period that never exceeds 20 years, produces a two-dimensional table that fully grades into the assumed long-term rate by calendar year 2025.

5.2 Summary of Comments Received

RPEC received three comments regarding the cohort convergence period it selected.

One commenter provided rationale (making reference to both war-time food shortages and the recent increase in obesity levels in the US) for using cohort convergence periods longer than ten years, especially for the depression era and baby boom generations. A second commenter asked what physiological / medical analyses were considered by RPEC in its selection of the relatively short cohort convergence period. The third commenter suggested a potentially simpler methodology for gradually phasing into the long-term mortality improvement rates.

5.3 RPEC's Response

RPEC acknowledges that reliable information about cohort effects in the US is very limited, and the research referred to earlier in this document will also be studying this topic. It is anticipated that this research will include some discussion of relevant biologic and demographic factors that could help explain the causes for and potential duration of cohort effects in the US.

As part of its research for the Scale BB report, the committee's analysis suggested that the extent of historical cohort effects in the US population seem to be considerably less significant than those observed in the UK. In particular, visual inspection of historical mortality improvement heat maps for US females seems to indicate potentially greater influence from calendar year period effects than from year-of-birth cohort effects.

Based on these observations, combined with the committee's desire to not overstate the importance of cohort effects in the US before they can be more fully understood, RPEC decided to assume a ten-year cohort convergence period.

5.4 Resulting Changes to Final Report

There were no changes to the final report that resulted from the comments received on this topic.

Section 6. Generational Mortality

6.1 Background

Gender-specific Scale BB rates were developed from the two-dimensional transitional mortality improvement arrays by backing into a set of one-dimensional rates that produced CY 2013 deferred-to-age-62 annuity values that were approximately equal to, but generally slightly less than, those calculated using the full set of two-dimensional rates. The deferred annuity values used for this process were based on the RP-2000 Combined Healthy base mortality table projected generationally. For this reason and a number of other reasons cited in the exposure draft and subsequent Q&A document, RPEC strongly encouraged the use of fully generational mortality tables over static approximations.

6.2 Summary of Comments Received

One comment letter requested that the SOA and RPEC consider the "elimination of a recommendation or preference for generational mortality over static mortality unless a more robust argument can be provided for the use of generational mortality." The comments letter included:

> *"We believe there is little support provided in the exposure draft for the claim of superiority of generational mortality tables over static mortality tables or the future need for two dimensional mortality tables. The fact is that the vast majority of employers sponsoring pension plans currently use static mortality tables for valuation of their retirement plan liabilities and a strong recommendation for a change to generational represents a very significant industry change – one which will perhaps be enforced by auditors and other end users of the SOA recommendations. RPEC (Retirement Plans Experience Committee) "strongly encourages" that Scale BB be applied on a fully generational basis, because it was designed to be applied in that fashion and, as a consequence, RPEC believes that the "projected static table" approximation techniques do not work as well with Scale BB as they did with Scale AA. We do not believe that this is sufficient reason to recommend the use of generational tables, which implicitly reflect the more important (in terms of the effect on liabilities) and unsupportable assumption that mortality improvement will continue at that same pace indefinitely. Rather than basing a strong recommendation on how an improvement scale is designed, the SOA should moderate its recommendation based on sound and less speculative arguments. We also believe that any interim approach should be fully compatible with the tables currently in use.*

Furthermore, the limited numerical information contained in the report does not seem to support the strong language around preference for generational projections. Specifically, the report states that the difference between AA static and generational is +/- 0.5% and the difference between BB static and BB generational is +/- 1.0%. We believe that such modest (and presumably symmetric) differences do not warrant the strong language contained in the report."

A second comment letter stated that "while there are many actuaries who believe a generational table provides a better estimate of future mortality experience than a static table, we understand many actuaries use static tables as an acceptable application of actuarial principles." This commenter pointed out that a fundamental advantage of a static approach is that the user can decide how long to assume that mortality improvement will persist while generational projection assumes continuing improvement for all future years. Finally, this commenter requested that RPEC acknowledge that static tables would continue to be used for certain pension administration applications, such as actuarial equivalent factors and lump sum calculations.

6.3 RPEC Response

The projection of future mortality rates on a generational basis was first introduced to pension actuaries in the United States with the release of Scale AA in connection with the 1994 series of base tables. The authors of the RP-2000 Report encouraged the use of generational mortality projection over static approximations. Currently, most pension valuation systems can accommodate generational projection of mortality based on gender/age-specific mortality improvement rates, such as Scale AA and Scale BB.

A number of fundamental issues related to the use of duration-based static tables (other than the increased variability addressed in Section 7.1 of the exposure draft) have been identified since its introduction in 1994. While this technique usually works reasonably well when used to value a specific type of obligation for a given covered group, pension valuations typically involve many different types of measurements (e.g., current service cost, accumulated benefit obligation, projected benefit obligation, etc.) and often require accurate allocation of obligations among different subgroups. Each combination of measurement type and covered subgroup produces its own specific duration which, in turn, would theoretically require its own statically projected mortality table. Furthermore, each of those tables would, in theory, require annual updates to reflect the passage of one more year from the date of the base table. The use of generational projection avoids all of these issues.

Based on these considerations, measurements that are to be based on generational mortality improvement assumptions are best done on such a basis directly rather than approximated with a static projection.

The above notwithstanding, RPEC agrees that the use of static projections may be an adequate approximation of the generational approach in certain situations. For example, static approximations might be sufficient for certain administrative applications (e.g., specifying the basis for actuarially equivalent optional forms), for certain regulatory purposes and for the valuation of smaller retirement plan populations or plans whose primary form of benefit payment is lump sum.

6.4 Resulting Changes to Final Report

RPEC provided additional support for its preference of generational projection to Section 7.1. It also added language acknowledging that static tables might be appropriate in certain situations, and removed the word "strongly" from its general recommendations for the use of generational projections.

Section 7. Other Comments

7.1 Overall Process for and Content of Study

One commenter expressed three concerns about process for and content of the Scale BB study.

> *"First, we question the need for the SOA to publish a new projection scale prior to completion of an updated underlying mortality table, particularly one which does not work well with the tables that are currently being used by the vast majority of retirement plan sponsors. Second, we question whether the SOA has adequately considered the implications of the issuance of the new Scale BB. Third, we also question the level of conservatism that has been embedded within the new Scale BB."*

7.1.1 RPEC Response

RPEC had three main objectives in releasing a new mortality improvement scale prior to completion of an updated mortality table, which have now been included in the Executive Summary of the final report.

The committee disagrees with the commenter's statement that Scale BB "does not work well with the tables that are currently being used." Scale BB was specifically designed to be efficiently adopted as an alternative to Scale AA with the RP-2000 base tables, and item B2 of the Q&A document describes how Scale BB can be used with UP-94 base tables. RPEC also disputes the commenter's suggestion that the committee did not adequately consider the implications of the issuance of Scale BB.

The third item, regarding embedded conservatism, particularly in connection with the 1.0% long-term rate assumption, has been addressed in other responses of this document.

7.1.2 Resulting Changes to Final Report

A new section has been added to the beginning of the Executive Summary outlining the committee's rationale for releasing Scale BB at this time.

7.2 Access to Two-Dimensional Rates in Section 5.2 of the Exposure Draft

A number of commenters requested access to the full set of transitional two-dimensional arrays in Section 5.2 of the exposure draft.

7.2.1 RPEC Response

Those two-dimensional rates were made available as part of item A3 in the Q&A document.

7.2.2 Resulting Changes to Final Report

Section 5.2 now includes directions on how the two-dimensional rates can be accessed.

7.3 Use of Scale BB with 1994 GAM Base Rates

One commenter asked whether when starting with 1994 GAM base mortality rates, Scale BB could be used to project future mortality improvement instead of Scale AA.

7.3.1 RPEC Response

This issue was addressed in item B2 of the Q&A document.

7.3.2 Resulting Changes to Final Report

There were no changes to the final report that resulted from the comments received on this topic.

7.4 Ensure That Mortality Rates Never Decrease Along Cohort Lines

One commenter suggested that RPEC confirm that the mortality rates that result from applying Scale BB to RP-2000 base rates never produce mortality rates that decrease (with advancing age) along year-of-birth cohort lines.

7.4.1 RPEC Response

RPEC has confirmed that other than the minor exceptions described in the following sentence, the mortality rates developed by the application of Scale BB to the RP-2000 Combined Healthy base tables always increase along individual year-of-birth cohort lines. The exceptions occur at ages under 10 (where the RP-2000 base rates themselves are decreasing) and for males between ages 24 and 25 (where the underlying RP-2000 base rates are the same).

The committee would like to point out, however, that in the general two-dimensional mortality improvement environment, it is very possibly for decreases in mortality rates to occur along cohort lines. This would happen, for example, whenever the assumed rate of mortality improvement (based on age and calendar year) is large enough to offset the age-related increase in rates.

7.4.2 Resulting Changes to Final Report

There were no changes to the final report that resulted from the comments received on this topic.

7.5 Rationale for Focus on Logarithm of Mortality Rates

One commenter requested additional information regarding the use of the best-fit log-linear (BFLL) methodology described in Section 3.1 – in particular, the use of the logarithm of the base mortality rates – to study historical mortality improvement rates.

7.5.1 RPEC Response

The BFLL methodology, which was also used in the development of the RP-2000 tables, is a standard technique to find the single numeric value that, for a given set of underlying mortality rates (at a given age over a given time period), produces the best overall fit for the year-over-year **change** in those rates over time.

7.5.2 Resulting Changes to Final Report

A more detailed discussion of this technique has been added as item A8 of the Q&A document. Otherwise, there were no changes to the final report that resulted from the comments received on this topic.

7.6 Ages Covered by Heat Maps

One commenter suggested that extending the age range in the heat maps to ages below 50 might be useful for spotting emerging mortality improvement trends, especially those that might be linked to increased levels of obesity in the more recent year-of-birth cohorts.

7.6.1 RPEC Response

RPEC acknowledges that extending the range of the heat maps to ages below 50 could be helpful in identifying mortality trends at those ages. The software RPEC has used for the Scale BB report does not include the functionality to change the age ranges displayed. We anticipate that more flexibility could be available in future models, better supporting examination of mortality trends at younger ages.

7.6.2 Resulting Changes to Final Report

There were no changes to the final report that resulted from the comments received on this topic.

7.7 Entry Age Normal Cost Method

One commenter asked how Scale BB was to be applied in connection with the Entry Age family of actuarial cost methods. In particular, the commenter requested guidance on how Scale BB should be applied to determine mortality rates prior to the valuation date.

7.7.1 RPEC Response

RPEC acknowledges that neither the exposure draft nor the Q&A document addressed the application of Scale BB to actuarial cost methods that require the determination of mortality rates prior to the starting year of the base table.

7.7.2 Resulting Changes to Final Report

An approach for using Scale BB with Entry Age cost methods has been added as item B9 of the Q&A document. Otherwise, there were no changes to the final report that resulted from the comments received on this topic.

7.8 Indexation of Two-Dimensional Mortality Improvement Rates

One commenter noted that RPEC's indexation of the two-dimensional rates described in item A3 of the Q&A document was not consistent with the way most other calendar year rates were labeled in practice. This commenter noted, for example, that the mortality improvement rates shown in the 1995 column or the two-dimensional arrays represent the changes in mortality rates between 1994 and 1995. The commenter cited examples such as the CPI, which measures the change in inflation between the labeled year and the following year.

7.8.1 RPEC Response

RPEC's selection of this indexation methodology was based on the mathematical formula for two-dimensional mortality improvement rates used by the CMI. In section 3.3.2 of the User Guide for the CMI Mortality Projections Model (version CMI_2011), for example, the annual rate of mortality improvement at age, x, and year, t, denoted as $r_{x,t}$, is defined as:

$$r_{x,t} = 1 - (q_{x,t} / q_{x,t-1}).$$

Rearranging terms produces the equation:

$$q_{x,t} = q_{x,t-1} \times (1 - r_{x,t}).$$

This last equation implies that the mortality improvement factor with calendar year index $\boldsymbol{t}$ should be applied to the mortality rate in calendar year $\boldsymbol{t-1}$ to produce the mortality rate in calendar year t.

7.8.2 Resulting Changes to Final Report

There were no changes to the final report or the Q&A document that resulted from the comments received on this topic.

7.9 Concern that No Canadian Data Was Included

One commenter expressed disappointment that the exposure draft did not include any data from Canada.

7.9.1 RPEC Response

RPEC had originally planned to include data from Canadian plans as part of its larger Pension Mortality Project. After the committee learned that the CIA was preparing to undertake its own study of Canadian pension plan mortality experience, RPEC decided to focus its efforts entirely on US mortality experience.

7.9.2 Resulting Changes to Final Report

There were no changes to the final report that resulted from the comments received on this topic.

7.10 Request for Rates Below Age 20

One commenter requested that RPEC extend Scale BB to include rates below age 20.

7.10.1 RPEC Response

RPEC did not analyze mortality improvement levels at ages below 20, since the financial impact on retirement plan obligations for these individuals is typically extremely small.

7.10.2 Resulting Changes to Final Report

There were no changes to the final report that resulted from the comments received on this topic.

7.11 Alternate Approach for Scale BB Projections

One commenter asked whether RPEC had considered creating an interim 2012 base table (by taking the RP-2000 table and projecting it to 2012 using the 2D rates) and then projecting that table forward from 2012 at the (attained-age only) long-term rate.

7.11.1 RPEC Response

RPEC did consider developing an interim base table of mortality rates in the manner described above, to which a new age-only projection scale could be applied. RPEC decided that it was more appropriate to issue a new interim projection scale, than both a new interim base mortality table and new interim projection scale.

7.11.2 Resulting Changes to Final Report

There were no changes to the final report that resulted from the comments received on this topic.

7.12 Applicability to Applications other than Retirement Plan Valuations

One commenter suggested that RPEC include some guidance on mortality improvement implications on types of annuities not typically used by pension actuaries.

7.12.1 RPEC Response

RPEC is authorized by the SOA's Board of Directors to provide its professional opinion on retirement plans only. The SOA's Group Annuity Experience Committee and Individual Annuity Experience Committee provide opinions for other annuity lines of business.

7.12.2 Resulting Changes to Final Report

There were no changes to the final report that resulted from the comments received on this topic.