August 12, 2019

Mr. Patrick D. Nolan, FSA, MAAA
Society of Actuaries
475 N. Martingale Road, Ste. 600
Schaumburg, IL 60173

Re: Pri-2012 Comments

Dear Mr. Nolan:

On behalf of the American Academy of Actuaries[1] Pension Committee, I write to provide the Society of Actuaries' Retirement Plans Experience Committee (RPEC) comments on the Pri-2012 Exposure Draft.

First, the Pension Committee commends RPEC on the considerable amount of work it has done and recognizes the difficulty of the task it faced. Obtaining substantial and representative data and the analysis and adjustment of that data to produce useful mortality tables involves much effort and requires a great deal of subjective judgment.

The Pension Committee also appreciates the significant effort by RPEC to retain as much of the received data as possible, resulting in a noticeable increase in the amount of final study data for employees and retirees, compared to RP-2000 and RP-2006 (baseline table underlying RP-2014) studies (see Appendix).

Notwithstanding its appreciation of the work RPEC has done, the Pension Committee has a number of substantial concerns regarding the data that was used to produce the proposed Pri-2012 tables and the methodology that was used to gather it. In addition to concerns and comments detailed below, the Pension Committee asks for certain clarifications and/or additional information and disclosures as noted throughout:

[1] The American Academy of Actuaries is a 19,500-member professional association whose mission is to serve the public and the U.S. actuarial profession. The Academy assists public policymakers on all levels by providing leadership, objective expertise, and actuarial advice on risk and financial security issues. The Academy also sets qualification, practice, and professionalism standards for actuaries in the United States.

- The decrease in the annual income thresholds for employees and retirees seen in the income quartiles is a source of concern. Both the top and bottom quartile breakpoints for male employees decreased by more than 10%. How did this compare to actual workforce salary levels at the same point in time? The Pension Committee also notes that it is a weakness of the study that the information regarding each plan's ongoing benefit accrual status was not collected by RPEC. Potentially, the annual income amounts provided are affected by whether or not the plan is frozen, and if so, by the date of the freeze. Considering the prevalence of frozen plans in the private sector, this seems to be important information to include in the study when developing amount-weighted rates.

- We believe the lack of data at younger ages (another potential consequence of frozen plans' prevalence) for the employee tables is a weakness. Other than making the adjustments described in the exposure draft to manage with the available data, what attempts were made to obtain additional data for this group?

- As with the prior study (RP-2006), we are concerned about the non-inclusion of data from the Pension Benefit Guaranty Corporation (PBGC). We believe that PBGC data can potentially be relevant and useful for a private sector experience study, but there is no mention of PBGC data in the exposure draft. Was an attempt made by RPEC to collect that data and/or were there reasons not to include it in the study?

- As noted in the exposure draft, there was a large increase in the percentage of data marked as "Unknown Collar" compared to the data used in construction of the RP-2006 table. Was any analysis performed to explain this phenomenon? If so, we'd appreciate any insights from such analysis to be included in the report.

- Also, Section 2.3.2 indicates that there was a change in how collar information was collected since prior studies (both RP-2000 and RP-2006), and that more than a quarter of the total individual collar designations were provided by the contributors. While the Pension Committee believes that specific designations provided by the data contributors are likely to be more accurate than any assumptions made without such designations, it might be valuable to include an analysis in the final report as to what the collar assignments would have looked like without this information—to wit, using the same methodology used in the prior study.

- A data request letter was sent "to the largest actuarial consulting firms and insurance companies known to have a sizeable block of group annuity business." As far as we are aware, no comparable attempt was made to send a request letter to smaller actuarial firms or insurance companies. Instead, the data request was posted on the Society of Actuaries (SOA) website in the hope that others might see it and respond to the call for data. The Pension Committee suspects that the number of respondents garnered from the call on the SOA website was quite small. We further believe that RPEC should indicate how much data was received from this source.

- Based on the methodology used to gather the data, we believe it is probable that the data used to produce the tables has a notable big and mid-sized plan bias. Footnote 9 (page 14 of the exposure draft) indicates that approximately 60% of the plans submitted contributed fewer than 2,000 life-years of exposure over the five-year period. However, this is still a considerably larger amount than what is seen in a typical small plan.

- The study does not indicate how the demographics of the data gathered compare on average to those of employees covered by private retirement plans, as a whole. Such comparison would be helpful to understand how representative the study data was of the population it is intended to be used for.

- The name "Pri-2012" clearly indicates an intended use in valuation of and other calculations for private retirement plans, primarily defined benefit plans. However, the number of participants actively employed and accruing benefits under such plans is decreasing, and the number of participants covered by defined contribution plans continues to increase. The Pension Committee believes that RPEC should address whether an attempt was made to solicit data from defined contribution plan sponsors and whether such data might have provided additional credibility to this study. In addition, the inclusion of defined contribution plan data might improve the value of the resulting tables for defined contribution plan uses—for example, annuitization and nondiscrimination testing. We believe that this falls within RPEC's charge to present the "ongoing reporting of mortality and other experience provided directly by employers with services provided by actuarial consulting firms," given that most such firms directly service both defined benefit and defined contribution plans.

In addition to our concerns and comments about the data, the Pension Committee believes that the RPEC should also consider addressing the following issues:

- We have multiple concerns with the ongoing value and quality of the information provided by the Top Quartile and Bottom Quartile tables. These concerns include:

  - The inconsistency of the income levels mentioned above with those in the RP-2006 study.
  - The income levels are not necessarily consistent with the purposes that RPEC suggests the tables be used for. For example, Section 4.3.1 of the exposure draft notes that the Top-Quartile tables are often used for valuing nonqualified plans offered only to highly compensated employees. Given that the threshold for entering the top quartile in the data used was approximately $67,000, it is not clear that the Top-Quartile table is truly indicative of mortality for this group. Employees are usually not considered part of a "select group of management or highly compensated employees" until their annual earnings are considerably higher than that.

- It might be more valuable for tables to be produced that represent the mortality of upper- and lower-income groups in the workforce as a whole, rather than simply in the data reflected in this study. For example, would it be possible to produce tables that reflect the mortality experience of the top and bottom deciles of the working population? A Top-Decile table constructed in this manner might much better reflect the experience of a nonqualified plan.
- The Pension Committee disagrees with the statement in Section 11.1.2 that "income has declined as a mortality predictor compared to the RP-2006 study." This is not supported by the information presented in the exposure draft. It appears that the quartiles have shifted downward, not that income has necessarily become less important as a predictor of mortality experience.
- In light of all of the above, the Pension Committee believes that RPEC should consider eliminating the Top and Bottom Quartile tables from the final study.

- Separating the dataset into multiple subpopulations creates certain statistical credibility issues. These issues were addressed suitably for some subpopulations by utilizing the shape of the mortality curve derived from the larger, more credible dataset and adjusting it by an appropriate constant. However, a different approach was utilized for the male contingent survivor dataset. Here, RPEC elected to simply create a single headcount-weighted table and to use it for all subgroups, including in place of amount-weighted tables. Generally, amount-weighted rates are more appropriate for measuring liabilities, as detailed in the RP-2000 report. While the Pension Committee agrees it is counterintuitive to observe an increase in age-specific amount-weighted rates compared to headcount-weighted rates, the link between pension annuity and socioeconomic status may be broken for retirees receiving benefits from multiple plans. Moreover, such a link is potentially nonexistent for contingent beneficiaries, who may be receiving only a small percentage of the original annuity. If RPEC judged the data in total for this subpopulation to be statistically credible, what was RPEC's rationale in discarding the indicated experience of amount-weighted rates?

- The Pension Committee also believes that RPEC should further elaborate on the continued appropriateness of issuing separate Public and Private Plan mortality tables. Based on information in the RP-2006 study, it was decided to eliminate public plan data from that study as the data received at that time appeared to indicate a significant difference in experience between the two. Now that additional data has been obtained, and two new studies (Pub-2010 and Pri-2012) prepared, we believe RPEC should directly address whether that distinction is still appropriate. In particular:

  - Is there any inherent reason, supported by the data, that mortality experience should differ between similarly situated (comparable collar, income level, etc.) public and private workers?
  - The exposure draft indicates that both the Public Safety and General Public tables issued under Pub-2010 are overall similar to the White Collar table proposed under Pri-2012. Given the income levels involved, is this an expected result?

- The Teacher mortality tables under Pub-2010 show lower mortality (better experience) than even the White Collar tables. The Pension Committee believes that this might be the case for other educated professionals as well, both public and privately employed. For example, we believe it would be valuable to see how the mortality for individuals such as attorneys, doctors and accountants, compares with the Teacher tables. If comparable, it might allow for the consolidation of the Public and Private tables, providing the benefits of additional credibility and the ability to issue tables for this highly educated group.

- The exposure draft states that individual life experience from the years 2002–2009 was used to help project the tables below age 35 (to age 18). We believe it would be valuable if RPEC described how this data compares historically to pension mortality experience for similar ages when such data was more readily available. Further, RPEC should indicate any anticipated impact of using this methodology.

- Section 10.2 shows a comparison of rates between the projected version of the RP-2006 tables and the Pri-2012 tables. There should be commentary on what the differences say for the accuracy of either study, as well as the annual mortality improvement scale adjustments used in comparisons. For example, U.S. actual historical mortality improvement rates from 2006 to 2012 can be estimated from either Social Security Administration (SSA) data or MP-2018. Comparing experience in 2006 trued up to 2012 with experience in 2012 may be useful and help readers better understand both the evolution of private pension plan experience and the application of U.S. mortality improvement rates for pension populations. Can the differences between the tables be explained?

- There are several proposed methodologies described in the exposure draft that would either require significant reprogramming of actuarial software to accommodate, or significant additional work on the part of the actuary to accomplish. We are concerned that, absent a strong statement that RPEC recognizes that these may be impractical or outside the area of ordinary good practice, an external reader could view these as mandatory. Among these include:

  - Section 12.4, Approach 2, suggesting the use of different mortality tables for the contingent beneficiary portion of a joint & survivor annuity before and after the retiree's death. The results in Table D.19 and our own separate analysis in this area reveal the difference in results garnered by using this approach to be very modest by virtually any measure. We think it would be worthwhile to discuss a fourth approach that would align with Approach 2 for contingent beneficiaries who are already in pay status on the valuation date, but with Approach 1 where the primary annuitant is still alive. Such an approach should be relatively easy to implement with most valuation systems, while otherwise producing results that are relatively close to Approach 2 (given that the most significant difference in results is for beneficiaries already in pay status). Liabilities produced by this approach would be only slightly higher than pure application of approach 2. It is true that such an approach would produce minor gains when all assumptions are

precisely met. Any such differential is likely to be very small, but if this is a concern, the actuary could address this by applying a modest liability reduction load.

- Section 12.6, suggesting the adjustment of the Nondisabled Annuitant tables to reflect a different concentration of contingent survivors than in the study data. It is hard to imagine an actuary believing there is benefit to this approach in all but the very largest plans.

- The Pension Committee believes that RPEC should further explain its treatment and rationale for discarding terminated records. It is not entirely clear whether such a record is dropped in the year of termination. If it is dropped in the year of termination, an explanation would be helpful as to why this treatment is preferred to partial exposures.

We urge RPEC to address these issues and make changes where appropriate before releasing the final Pri-2012 report. We also recognize that some of the ideas presented in this letter may be more completely addressed in future SOA mortality experience studies.

The Pension Committee appreciates the opportunity to comment on this matter. Please contact Monica Konaté, the Academy's pension policy analyst (konate@actuary.org, 202-223-7868), if you have any questions or would like to arrange a convenient time to discuss these comments further.

Sincerely,

Bruce Cadenhead, FSA, MAAA, EA, FCA
Chairperson, Pension Committee
American Academy of Actuaries

Appendix

Summary of recent studies' data

Table below summarizes final study data used to construct three sets of most recent tables.

Study		RP 2000		RP-2014		Pri-2012	
Baseline year		1992		2006		2012	
Group		***Exposures***	***Death***	***Exposures***	***Death***	***Exposures***	***Death***
Employees							
	Male	3,872,245	7,911	2,467,108	5,358	4,561,650	7,835
	Female	1,862,358	1,911	1,989,637	2,277	2,627,841	3,003
	Subtotal	5,734,603	9,822	4,456,745	7,635	7,189,491	10,838
Health Retirees							
	Male	3,255,543	114,220	3,165,190	110,647	5,277,831	198,509
	Female	865,117	20,921	1,470,855	45,586	2,254,173	69,010
	Subtotal	4,120,660	135,141	4,636,045	156,233	7,532,004	267,519
Beneficiaries							
	Male	23,034	1,138	60,549	3,245	75,523	4,903
	Female	709,175	25,600	978,819	45,341	949,197	45,678
	Subtotal	732,209	26,738	1,039,368	48,586	1,024,720	50,581
Disabled							
	Male	292,182	16,584	240,917	11,901	283,523	12,143
	Female	77,463	2,652	127,769	4,062	49,131	1,602
	Subtotal	369,645	19,236	368,686	15,963	332,654	13,745
Total		***10,957,117***	***190,937***	***10,500,844***	***228,417***	***16,078,869***	***342,683***

The table shows:

1. Amount of data for employees increased significantly over the last two studies, for both males and females.
2. There was a significant increase in data available for retirees, both male and female: over 60% increase in volume of data, with similar proportion of male to female populations as in prior study for RP-2006. This is an important improvement because post-retirement mortality is a significant assumption for pension valuations.
3. Data separately available for contingent survivors (tracked after death of primary beneficiary) appears to be similar in volume to the last study for RP-2006 and represents a significant increase from the study for RP-2000. As discussed elsewhere in this letter, while in total male contingent survivors' data appears to be statistically credible, further subdivision into subpopulation is problematic from credibility point of view.