

CMI SAPS Mortality Committee
Preliminary response to consultation on the draft graduations of SAPS
mortality experience (March 2008)

Background

In January 2008, the CMI issued Working Paper 32, which contained proposed graduations of mortality, based on data collected by the CMI self-administered pensions schemes investigation (SAPS) for the period 2000 to 2006.

These were the first graduations performed on the SAPS data and were issued as part of a consultation process, which included discussion at sessional meetings of the Faculty of Actuaries in Edinburgh and the Institute of Actuaries in London.

Responses to consultation were requested by 29 February 2008. Whilst the Committee is still considering some aspects of the responses, and how these should be reflected in the final tables, it wanted to provide a high-level update to actuaries at the earliest opportunity.

In particular, the Committee wants to highlight that a discrepancy in age definition between the data used and the software resulted in the draft tables over-stating mortality rates by half-a-year. The resulting understatement of expectation of life is up to half a year for all draft tables. We are especially grateful to the two respondents whose comments alerted us to this issue.

A more complete summary of the responses received and the alterations made to the final tables will be included in a subsequent Working Paper to be released at the same time as the final tables. It is hoped that these will be available before the end of June 2008.

The Committee would welcome feedback (by 30 April 2008) on whether a further consultation exercise should be undertaken on the revised tables. Such an exercise will necessarily delay the publication of final tables.

The mortality rates

The CMI received two responses which led to the Committee identifying the discrepancy in age definition noted above. This error has the effect of over-stating the mortality rates. This will obviously be corrected in the final rates.

Further investigation following these responses also led the Committee to re-appraise the methodology adopted to calculate the exposed-to-risk. The SAPS investigation has used initial exposed-to-risk from its inception. Whilst the standard actuarial definition of initial exposed-to-risk states that deaths are exposed for a full year (not just to date of death), different practices apply in modifying this approach to allow for part-years, that necessarily arise in a calendar-year investigation. The approach used for the SAPS investigation was chosen to make appropriate allowance for the accumulation of new entrants to the investigation at specific ages, arising from retirements at particular ages such as 60 and 65.

However the Committee now considers that this approach may lead to a small over-statement of mortality rates at the oldest ages and is therefore considering amending its approach and using central exposure. The "00" and earlier series of CMI mortality tables were calculated using central exposure and so not only would the use of central exposure result in

theoretically more accurately calculated values of $\mu(x)$, and hence $q(x)$ at older ages, but the comparisons with the “00” tables, and also the “92” tables, will be more meaningful.

Responses to specific questions

As well as a request for general feedback on the proposed graduations, Working Paper 32 requested feedback on nine specific questions. Key aspects of the responses received and the implications for the final tables are summarised below.

Naming conventions

The Committee requested feedback on the suggested table names in general and on the abbreviations to use for Light and Heavy tables in particular.

During the consultation a suggestion was made that the use of “03”, referring to the year to which the rates apply was inappropriate as it creates an impressions that the tables are out-of-date. The Committee acknowledge this point but felt it was potentially misleading to refer to the year of issue, as suggested. Instead the Committee intends to label the first set of SAPS graduations as “Series 1”. Consideration will be given in due course as to whether a similar approach should be used for other CMI mortality tables.

In addition, the Committee agreed that:

- L and H would be retained to refer to Light and Heavy, respectively; however these indicators will be appended to the end of the table name following an underscore; and
- The W in the Widows tables would be replaced by a D to represent Dependants and a gender indicator would be included. This improves the consistency of all the names.

As a result, the following table names will be used for the final graduations:

Name – proposed graduations	Name – final graduations
SPFL03	S1PFL
SPFA03	S1PFA
SPFA03Light	S1PFA_L
SPFA03Heavy	S1PFA_H
SPML03	S1PML
SPMA03	S1PMA
SPMA03Light	S1PMA_L
SPMA03Heavy	S1PMA_H
SWL03	S1DFL
SWA03	S1DFA
SWA03Light	S1DFA_L
SWA03Heavy	S1DFA_H
SNFA03	S1NFA
SNFA03Light	S1NFA_L
SNFA03Heavy	S1NFA_H
SNMA03	S1NMA
SNMA03Light	S1NMA_L
SNMA03Heavy	S1NMA_H
SIFA03	S1IFA
SIMA03	S1IMA

Light and Heavy pension bands

The draft tables included some that differentiated between the mortality of the top 25% and the bottom 75% of the experience, ranked by pension amounts. Feedback was requested on whether the Light tables should be based on the top 12.5% of pension amounts, and attracted a positive response.

The Committee will give further consideration to the proportion of the lowest pension amounts to be included in the Heavy tables, in particular whether it should be lower than the 75% used in the draft tables.

Retention of tables

The Committee invited feedback on the retention of Light and Heavy graduations for both “All Pensioner” and “Normal Health Retirees” and, more generally, on which tables should be dropped if the number of proposed tables is thought to be too high.

A variety of views were expressed in responses and the Committee has decided that all of the draft tables should be retained, but is not intending to introduce any other tables.

Lower ages

The Committee asked four specific questions under this heading:

- Which graduations should continue down to a lower age of, say, 20?
- In particular, should the “All Pensioner” table stop at a lowest age of 50, or be extended to a similar lower age?
- For tables that are extended downwards, would a starting age of 16 or 17 be preferable to 20?
- Whether the rates chosen for younger ages are the most suitable.

The feedback indicated that actuaries would find it useful for all the tables to extend to such a lower age, and that 16 was a suitable lowest age. The Committee is now considering how the “All Pensioner” tables should be extended to lower ages, given the issues involved in doing so, which were outlined in Working Paper 32.

Older ages

The Committee invited feedback on the approach adopted to produce the draft tables for older ages. Most of the responses received indicated general support for that approach. However, as noted above, the Committee is reviewing its approach to calculating exposed-to-risk which will have the greatest effect at the oldest ages and the Committee will review the comments that were received in the light of these revisions. This may lead the Committee to adjust the approach used in the draft tables.