



Annuities Committee

Summary of Working Paper 101: “All offices” experience of pension annuities in payment, 2011-2014

July 2017

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Introduction

This document provides a brief synopsis of Working Paper 101, which describes the “all offices” experience of pension annuities in payment in the years 2011-2014. For more detail, readers are encouraged to refer to the full Working Paper¹. The results are available in spreadsheets alongside the paper.

The dataset

The dataset comprises pension annuities in payment only; as submitted by insurance companies in a wide variety of formats. We judged life annuities and deferred pension annuities to be of lower priority to users and those datasets are currently less well developed.

We previously issued results for the years 2007-2010, described in Working Paper 70. That dataset also formed the basis of the “08” Series annuitant mortality tables which we used as the comparison basis for the results underlying this paper. Compared with the dataset underlying “08” tables, the latest dataset:

- Is considerably larger; with over 60% more deaths.
- Allows analysis by product type. Most of the earlier data could not be accurately categorised by product and hence the “08” tables contain no such differentiation; in contrast nearly 80% of the latest dataset could be differentiated between Individual, Group and Pension buy-out.
- Also allows analysis of the Individual annuities by distribution channel, distinguishing between internal vesting and external annuities.

Alongside the 2011-2014 data, we collected additional data for the preceding quadrennium and the paper includes results for an updated version of the 2007-2010 dataset, which use a consistent group of offices to the 2011-2014 dataset. This updated dataset also allows analysis by product type and distribution channel. Neither dataset is entirely complete, as shown in Chart 1; in particular there are lower volumes of data for 2007 and 2014.

Methodology

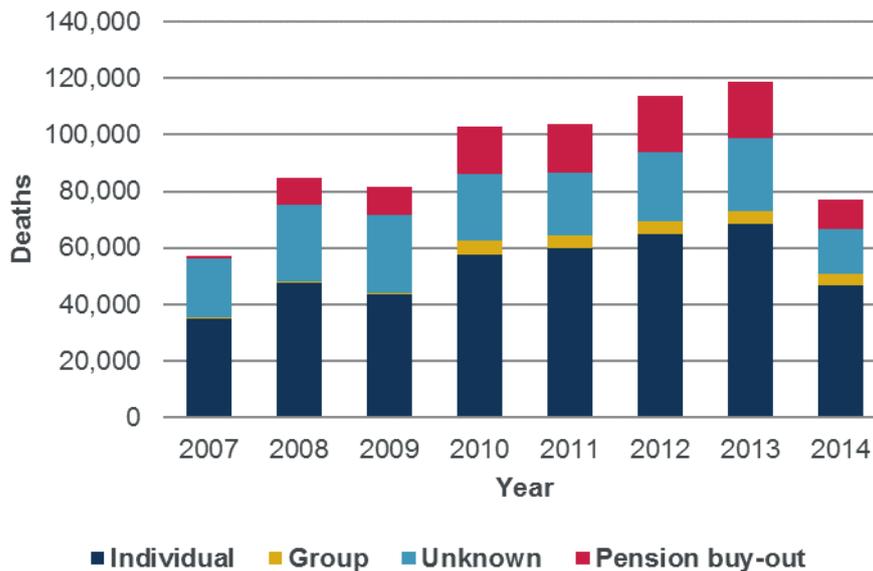
Most of the results in this paper compare actual deaths by age and gender with those expected using the “08” tables, which were finalised in Working Paper 81. The assumptions made in processing the data are summarised in the paper. In particular, approximations were required in relation to benefit amounts; hence the amounts-weighted results should be regarded as having greater uncertainty than the lives-weighted results (as well as greater statistical variability) and the paper focuses on lives-weighted results.

No explicit allowance has been made for late-reported deaths but we expect the vast majority of incurred deaths that correspond to exposure in 2011-2014 to have been included within this analysis.

¹ Most of the CMI’s research is only available to “Authorised Users”; i.e. employees of subscribers and researchers, for non-commercial use. Details of how to access the full paper and the CMI’s other research can be found on the [CMI’s web pages](#).



Chart 1: Numbers of deaths by year for the 2007-2010 (updated) and 2011-2014 datasets by product type



“...the datasets are not complete, with lower volumes of data for 2007 and 2014.”

Overall experience

The all-ages, all-durations experience of the updated 2007-2010 dataset is close to 100%, for both males and females, despite the significant changes in offices. Unsurprisingly, the experience in 2011-2014 is lighter, reflecting improvements in mortality between the periods.

The shape, by age, of the latest experience is broadly similar to that provided by the “08” tables in the age range with reasonable volumes of exposure; i.e. between ages 65 and 89. However there are marked differences at both younger ages and older ages, where experience diverges from the corresponding “08” tables. This is true for both males and females, in both 2011-2014 and in the updated 2007-2010 dataset. Mortality at advanced ages is an area that has been considered extensively by the CMI High Age Mortality Working Party. In particular, it has recently set out a proposed framework for high age mortality rates in Working Paper 100 and illustrated its application to the “08” tables. After applying the illustrative extensions, instead of the published tables, the 100xA/E values at ages 90-94 are comparable with the values for most other ages; but are still low, for both males and females, at ages 95+ suggesting significant data issues at these advanced ages.

Experience by product type

The relative experience of different types of pension annuity is a particularly interesting feature of Working Paper 101 as we were unable to identify product type with certainty for much of the 2007-2010 data that was used in the “08” tables. At a high level, experience is lower for Individual annuities than for Pension buy-out business that, in turn, is lower than the experience of Group business.

Within Individual annuities, the experience of external business is lower than that of internal vesting cases (i.e. where the annuity follows a pension saving contract with the same insurer). This may be a consequence of the different profiles of the business underlying these datasets, or could reflect the different competitive forces when the annuities commenced, as the internal annuities may contain some annuities effected under Guaranteed Annuity Options whereas the external annuities may have faced greater competition from enhanced annuities. (We believe that the dataset does not include any enhanced annuities; we analysed the experience of such business for 2007-2010 in Working Paper 87 and hope to continue to collect data to allow analysis of more recent experience.)

For males, there is generally a notable durational effect for both Individual business and Pension buy-out business; with low experience at duration 0. For females, the picture is less clear-cut; perhaps reflecting a greater proportion of spouses’ benefits in the female dataset, as we define duration as the time since commencement of the widow(er)s/dependants’ benefits for contingent benefits.



Experience by calendar year

We are not releasing detailed results for the individual years alongside Working Paper 101 because of the need to ensure confidentiality of each office's experience. However, we do show the experience by calendar year for the years 2007-2014 at a high level using Actual/Expected values and the improvements in experience expressed as changes in standardised mortality rates (SMRs) and compare these with changes in mortality for the general population in England & Wales.

Both analyses appear to suggest that the fall in experience over this period has been less rapid than smoothed improvements within the population of England & Wales. However both analyses show significant volatility in the annuities experience by year and could be vulnerable to changes in product type or in the profile of business by duration.

Future work and data collection

We were keen to release the 2011-2014 results as soon as practicable after we had a comprehensive dataset. Consequently Working Paper 101 focuses on describing the dataset and the experience; we now intend to undertake further analysis of this dataset in conjunction with the updated 2007-2010 dataset, and issue a further working paper detailing our findings.

We are considering a number of possible strands of future work:

1. Producing new tables that may differentiate by product type (and possibly duration) using the 2011-2014 dataset and the framework for setting high age mortality rates proposed in Working Paper 100.
2. Undertaking more credible and more up-to-date analysis to inform the debate regarding the recent apparent change in improvements in population mortality data, and the basis risk between pensioner and population mortality experience.
3. Thereafter, we are keen to resume regular annual reporting on the experience of pension annuities in payment and intend consulting data contributors on a target date for data submissions of 31 May each year.
4. Less frequent reporting on the experience of life annuities, deferred annuities and enhanced annuities.

We welcome views on this approach and prioritisation; if possible by 15 September 2017.

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