



Institute
and Faculty
of Actuaries

B8: Do we need to update the 00 series tables?

James Tait, Pacific Life Re
Jamie Leitch, SCOR Global Life

03 December 2014

Agenda

CMI Assurances Committee	An overview of the Assurances committee and how we fit in to the CMI as a whole
Data	A discussion of the 2007-2011 data collection exercise
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Assurances Committee

- Who are we?

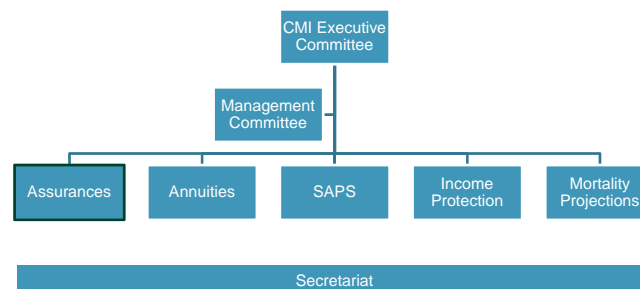
- James Tait (Chairman) Pacific Life Re
- Jamie Leitch SCOR Global Life
- Bill Baker Swiss Re
- Mary Hall UCD
- Jonathan Hughes RGA
- Donald McLean HSBC
- Peter Mitchener Friends Life
- James Shattock UNUM

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Assurances Committee

- How we fit in



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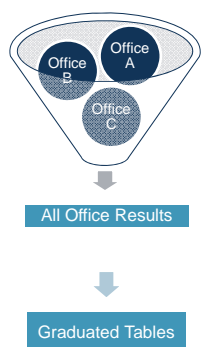
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Change in CMI Committee structure

- Assurances Committee
 - Critical Illness with added responsibility for mortality under Term / Endowment / Whole Life
 - CI Committee joined by two members of Life Office Mortality Committee
- Rationale for the change
 - Better reflects the structure within most life offices
 - Simplifies communications with data contributors
 - Allows volunteer committee members to be more closely aligned to their areas of work

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Assurances Committee



- Our work
 - Offices submit data to the CMI secretariat;
 - They process the data and send individual office results back;
 - Once every (large) office has been processed, “All Office” results are issued;
 - Periodically, graduated tables are published using All Office data
 - Driven by feedback

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Assurances Committee

- Mortality tables

Product	Latest Table	Data period
Term Assurances	T00*	1999-2002
Endowments	A00*	1999-2002
Whole of Life	A00*	1999-2002

** Ultimate durations (5+) were graduated across all products; Single Life data only
Guaranteed Acceptance WoL not included in graduated tables*

- Critical illness tables

Product	Latest Table	Data period
Term Assurances (Accelerated)	AC04	2003-06
Endowments (Accelerated)	AC04	2003-06
Whole of Life (Accelerated)	AC04	2003-06

** Imputed Standalone tables have also been produced*

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CMI Mortality – 00 Rates

- Term and Endowment/Whole life tables; Lives table only
- Based on claims incurred in 1999-2002
- 6 tables: each gender/smoker status (incl. combined)
- Term: Durations 0,1,2,3,4 and 5+ for ages 17 to 95; ultimate only for ages 96+:
- Endowment/Whole Life: Durations 0,1,2+ for ages 17-90; ultimate only for ages 91+
 - Different selection patterns by gender/smoker status derived from data
 - Rates have been extended outside the age range where there is credible volumes of data
- Age exact basis

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CMI Critical Illness - Scope of AC04 rates

- All-causes accelerated critical illness; Lives table only
- Based on claims settled in 2003-2006
- 4 tables: each gender/smoker status (no combined)
- Durations 0,1,2,3,4 and 5+ for ages 18 to 65; ultimate only for ages 66+:
 - Different selection patterns by gender/smoker status derived from data
 - Rates have been extended outside the age range where there is credible volumes of data
- Age exact basis
- No stand-alone tables derived from stand-alone data

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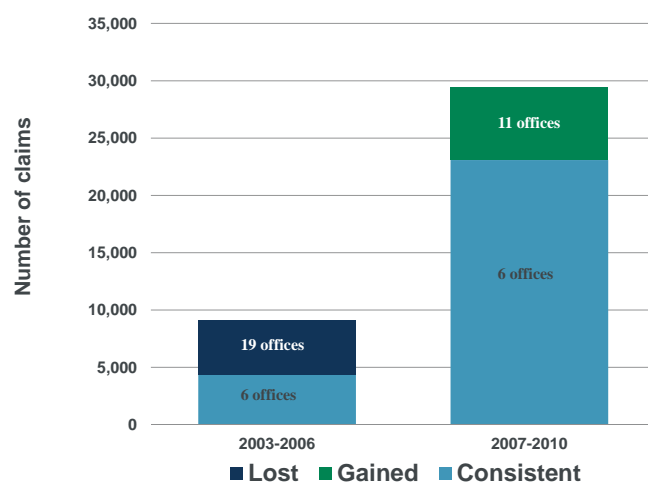
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2007-2011 data collection exercise

- Considerable concern over data collection:
 - Slow progress to Per Policy – data requirements over-ambitious
 - All Office results out of date
 - Fall in market coverage for Life Office Mortality
 - Compounded by limited resources in offices (Solvency II etc)
- 2007-2011 data collection exercise – CI and Mortality
- Intended to make data submission as easy as possible

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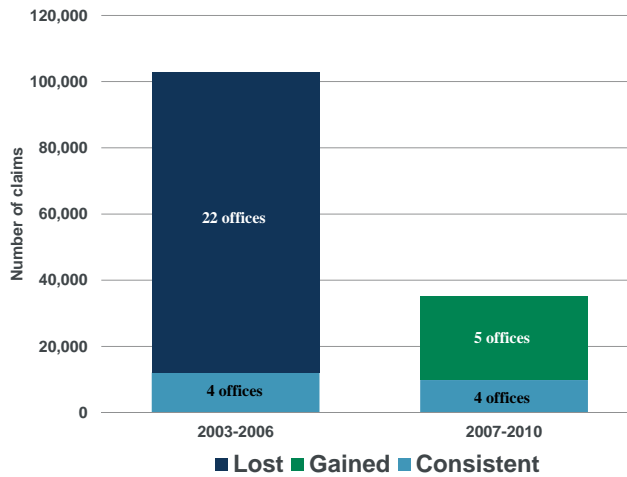
Change in mix of offices (Mortality / Term)



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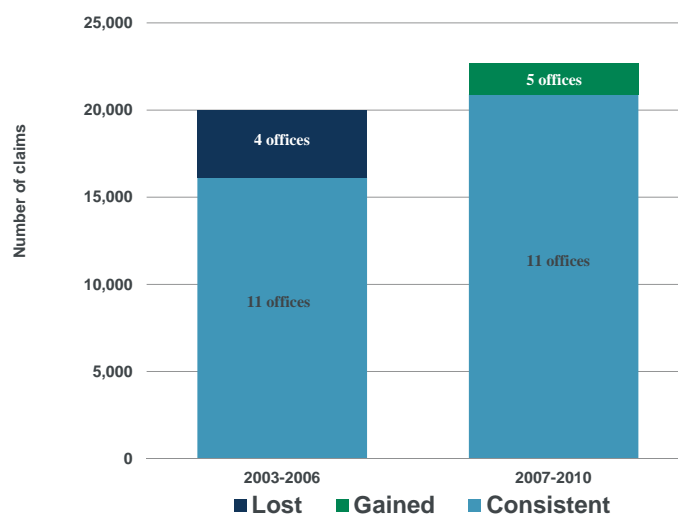
Change in mix of offices (Mortality / Endowment and Whole Life)



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Change in mix of offices (ACI)



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CMI Assurances – Results methodologies

Mortality assurances – historic

- Actual Incurred Deaths v Expected Incurred Deaths
- Secretariat received limited data => reliance on offices;
 - Did the office use the stated definitions for age and duration
 - Does the end-of-year In Force allow for late processing of lapses?
 - Did the office use date of death to code claims?
 - Data requested by 30th Sept – offices asked NOT to include deaths reported after this date
 - Did offices include Terminal Illness claims?

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CMI Assurances – Results methodologies

Critical Illness – historic

- 'Unadjusted Results' / WP14 methodology
 - Actual Settled Claims v Expected Diagnosed Claims
 - Mismatch ... 'Grossing-up factors'
- 'Adjusted Results' / WP33 methodology
 - Actual Settled Claims v Expected Settled Claims
 - Match A and E, but presented using settlement timing
 - Also used as methodology for AC04 diagnosis rates

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CMI Assurances – Results methodologies

Assurances – going forward

- Actual Incurred Claims v Expected Incurred Claims
- Match A and E, but need:
 - 2012 data to (almost) complete the 2011 experience; or
 - an estimate of outstanding claims (IBNS)

No allowance for IBNS in 2007-2010 results (but we have 2011 settled claims)

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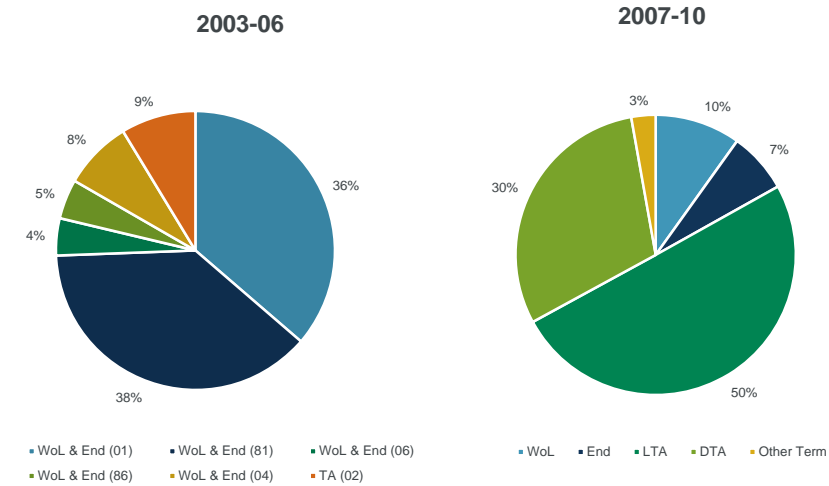
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Why these are DRAFT Results

- These results are currently being reviewed by the Committee but are not expected to change before publication

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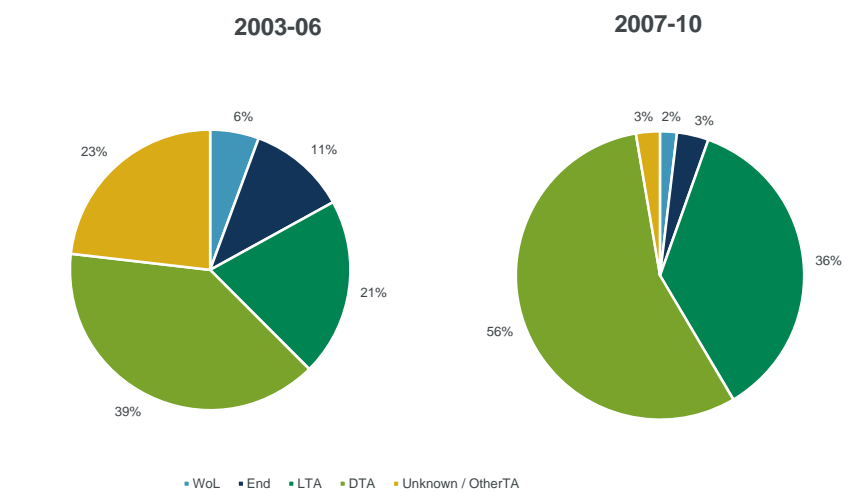
Exposure by Product (Mortality)



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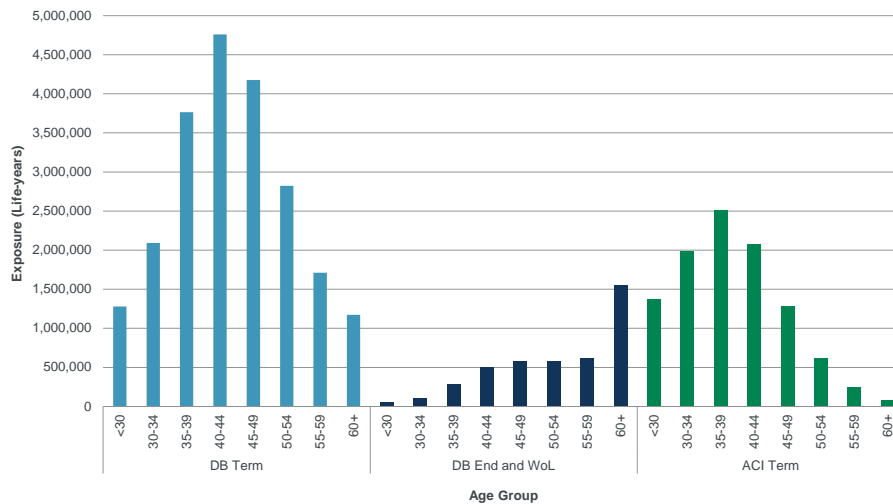
Exposure by Product (ACI)



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Exposure by Age (Mortality and ACI)



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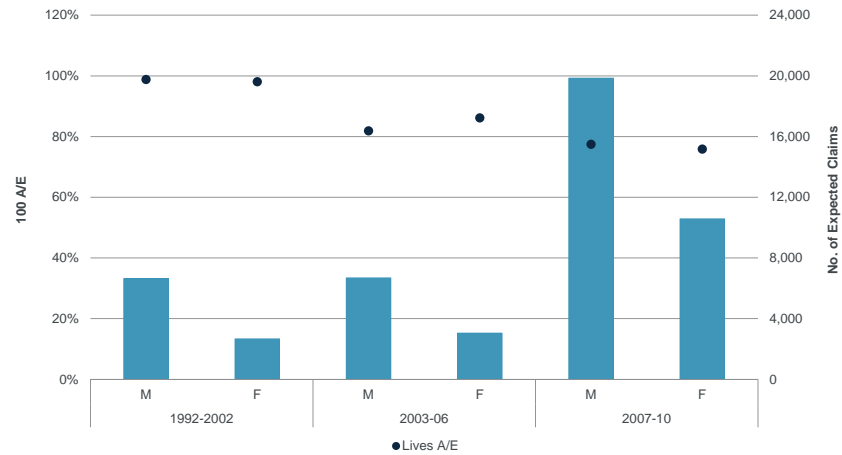
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Draft Mortality / Term Results by quadrennium

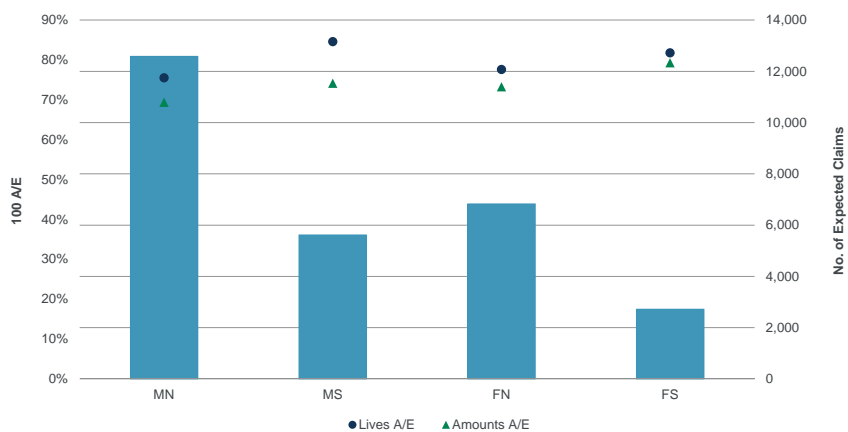


Expected claims calculated using Txy00

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Draft Mortality / Term Results: Lives vs. Amounts

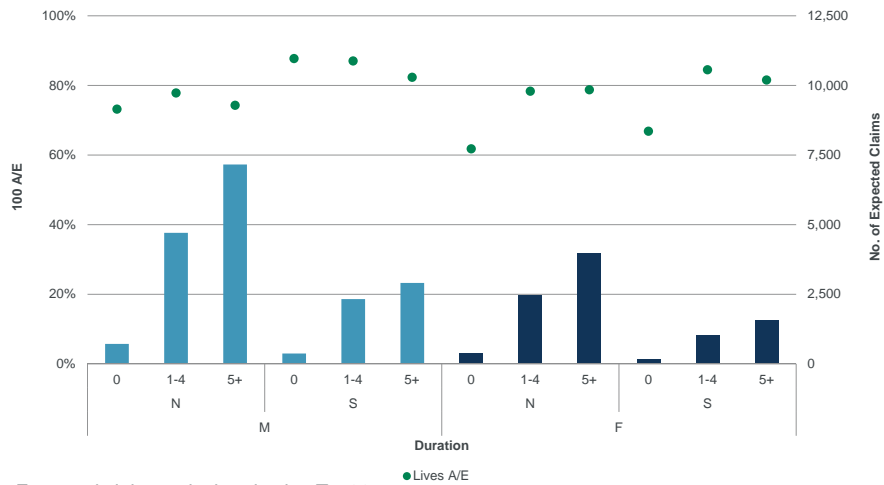


Expected claims calculated using Txy00

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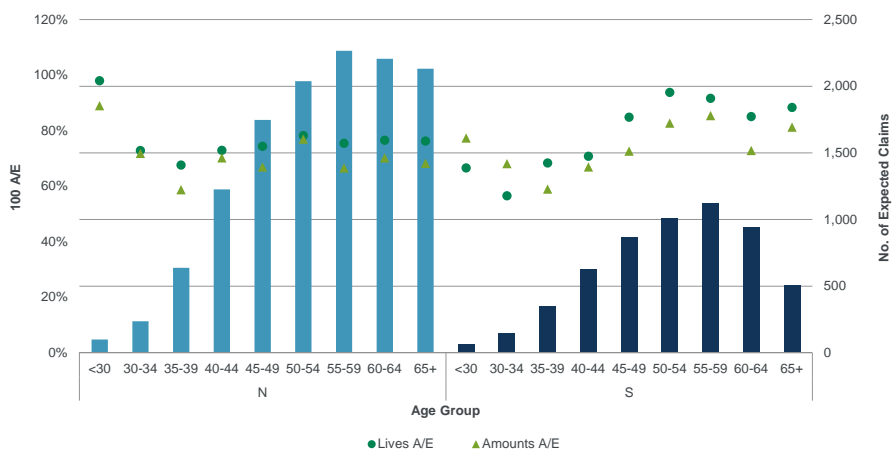
Draft Mortality / Term Results by Duration



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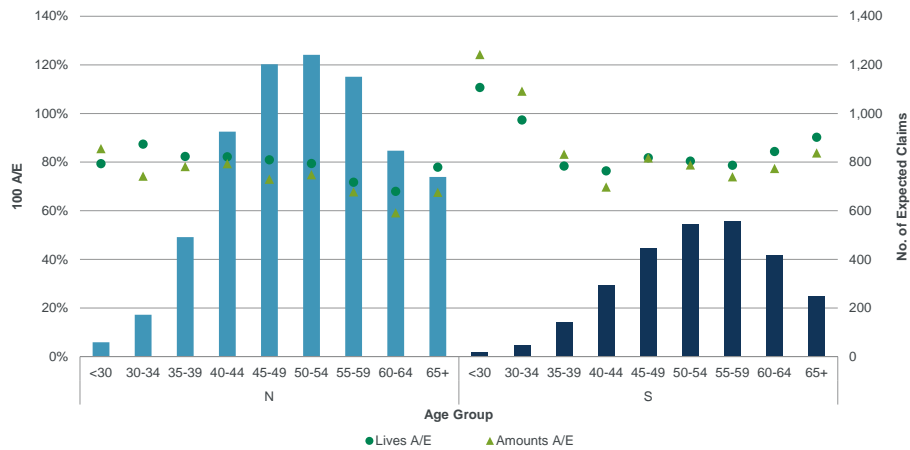
Draft Mortality / Term Results by Age – Males



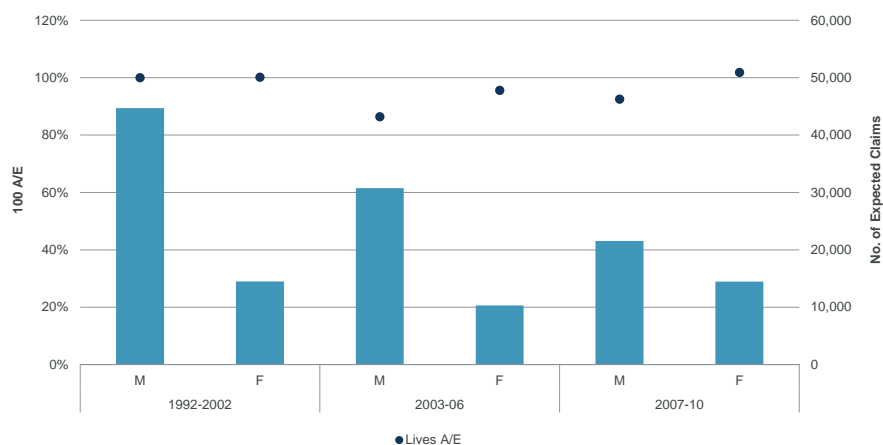
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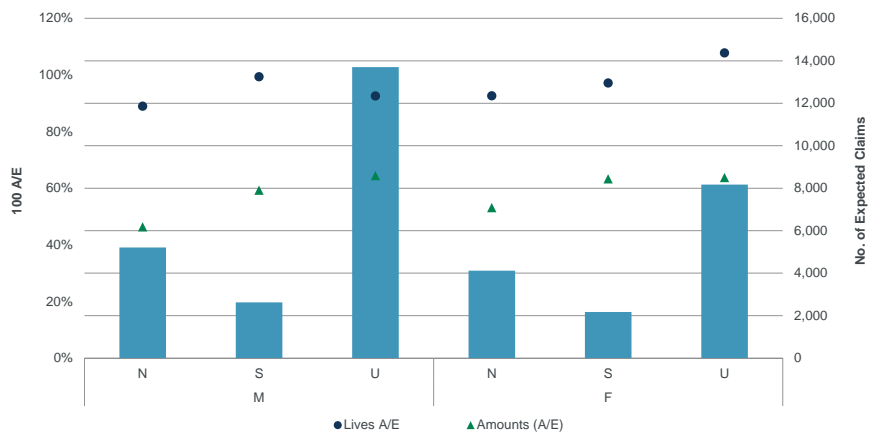
Draft Mortality / Term Results by Age – Females



Draft Mortality / Endowment and Whole Life Results by quadrennium



Draft Mortality / Endowment and Whole Life Results: Lives vs. Amounts

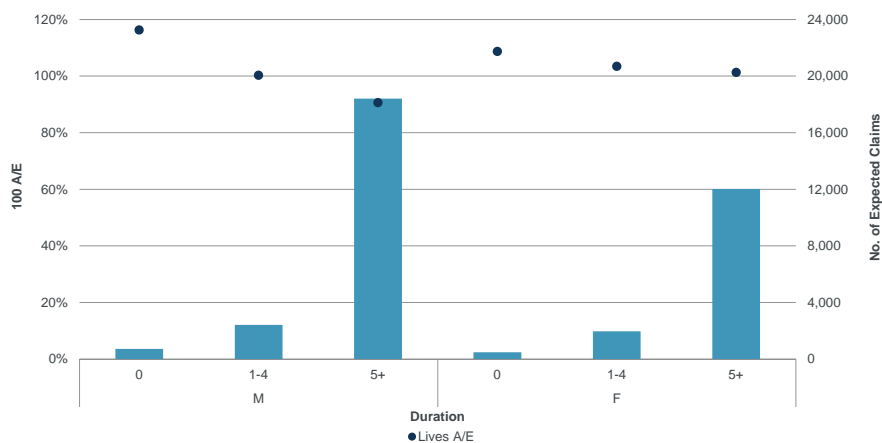


Expected claims calculated using Axy00

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Draft Mortality / Endowment and Whole Life Results by Duration

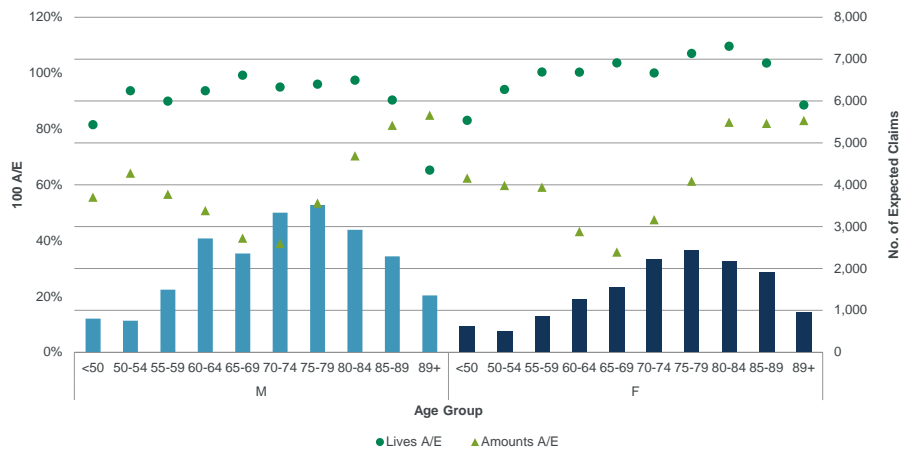


Expected claims calculated using Axy00

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Draft Mortality / Endowment and Whole Life Results by Age



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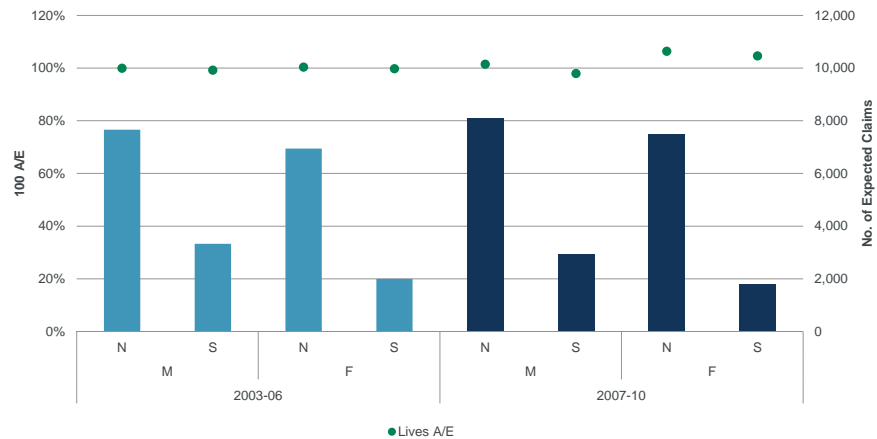
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Draft ACI / Term Results by quadrennium

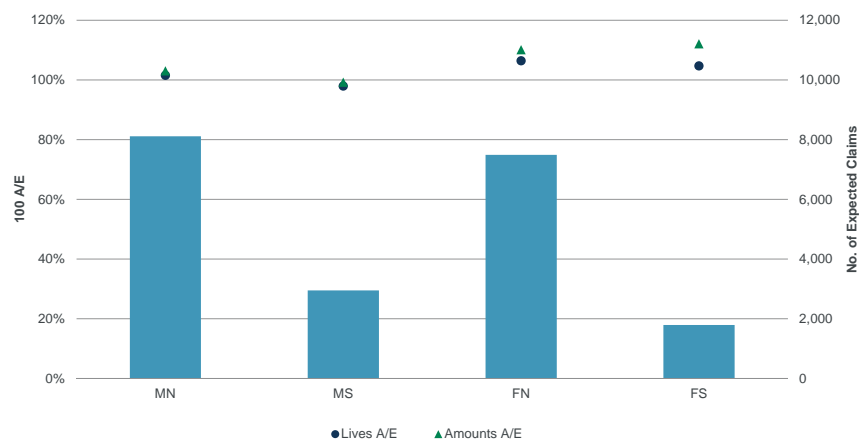


Expected claims calculated using ACxy04

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Draft ACI / Term Results: Lives vs. Amounts

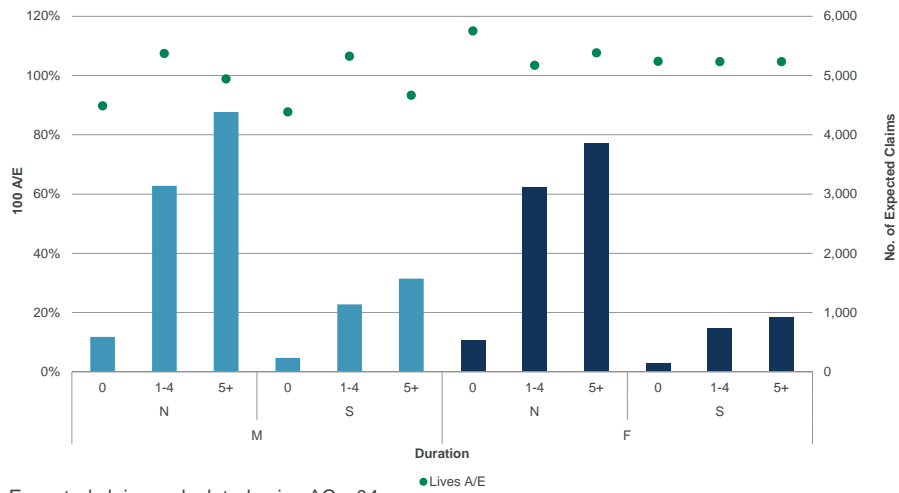


Expected claims calculated using ACxy04

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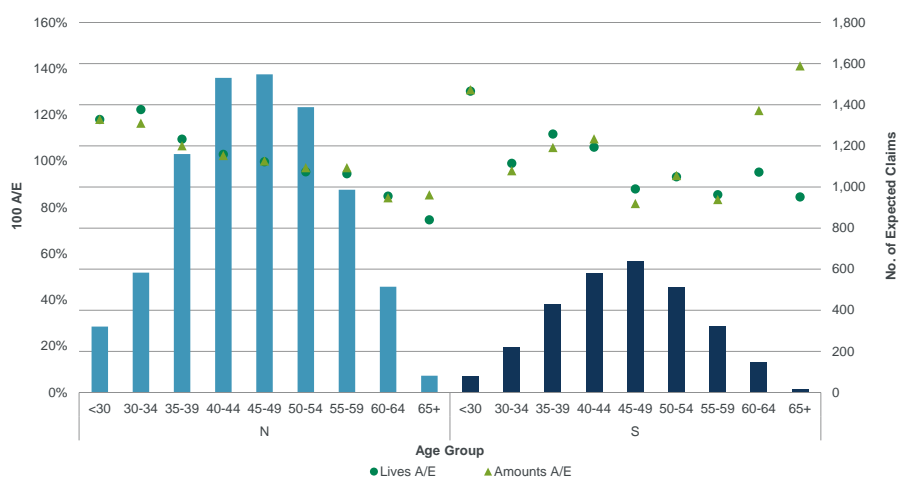
Draft ACI / Term Results by Duration



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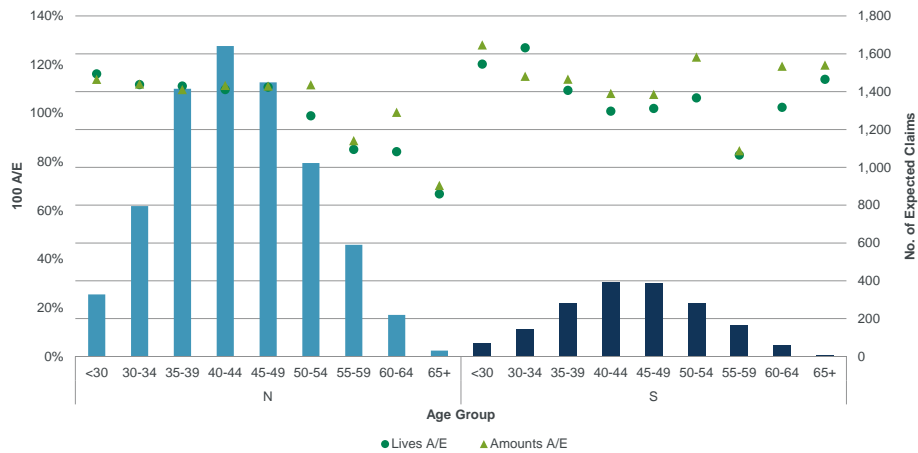
Draft ACI / Term Results by Age – Males



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Draft ACI / Term Results by Age – Females



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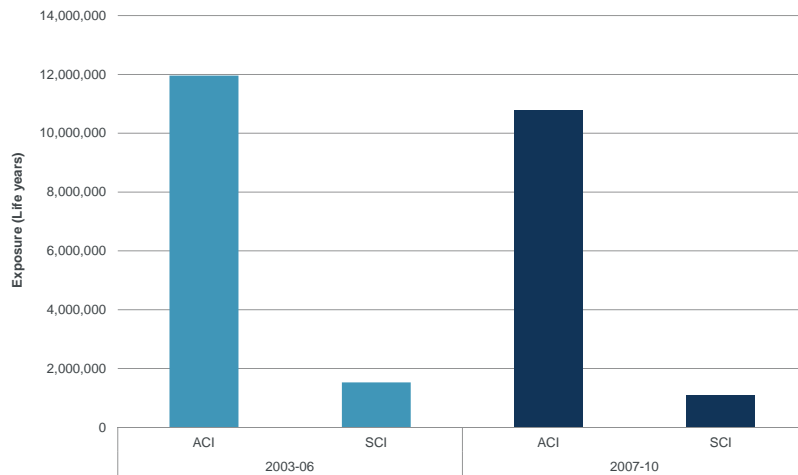
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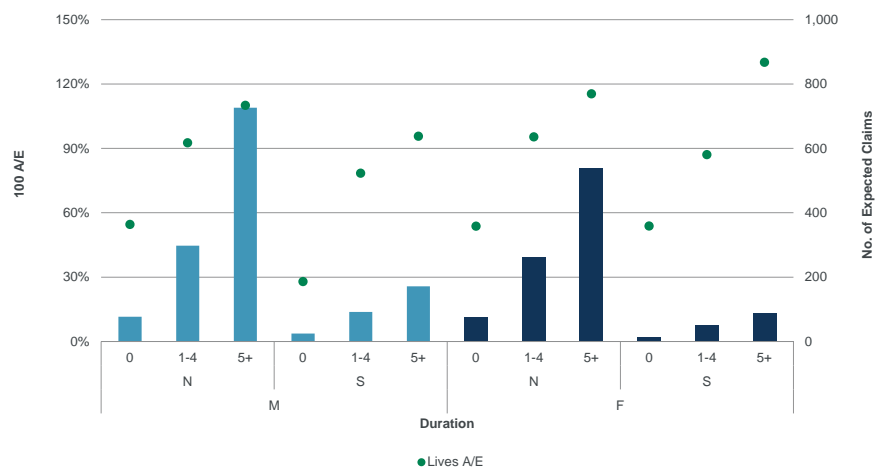
ACI vs SCI Proportions



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Draft SCI Results by Duration

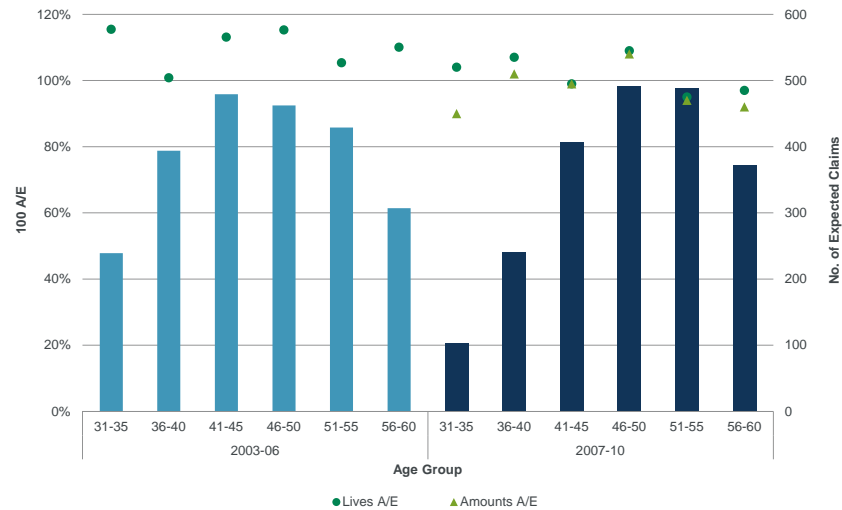


Expected claims calculated using SCxy04

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Draft SCI Results by Age



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Expected claims calculated using SCxy04

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CMI Assurances – 2007-2011 results

- Summary results will be produced by:
 - Age (last birthday; 5-year age bands)
 - Duration (curtate; 0, 1-4, 5+)
 - Gender and Smoker status (where relevant)
 - Product category (separately for mortality, accelerated CI and stand-alone CI):
- Detailed results – individual age and duration; also include sum assured band, distribution channel and commencement year.
- Accompanying Working Paper describing data, etc
- 2011 results: (a) with IBNS estimate or (b) wait for 2012 data?
- Is annual production of results practical? E.g. submission of data by April/May each year

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CMI Assurances – 2007-2010 graduations

Do we need to update the 00 tables?

- CI tables look like they are in more need of work
- T00 tables look a better fit
- A00 will largely be used at ultimate durations

Issues to consider with limited resources:

- Graduate (a) Term only or (b) Term + Endowment + WoL?
- Should we graduate a stand-alone CI table?
- Should the tables apply to (a) All distribution channels (b) IFA and other?
- Should we conduct a specific investigation in GA WoL?

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Questions

Comments

Expressions of individual views by members of the Institute and Faculty of Actuaries and its staff are encouraged.

The views expressed in this presentation are those of the presenter.

Any queries or feedback to Assurances@cmilimited.co.uk.

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