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CMI Mortality Investigations

London
26 April 2007

CMI Mortality Investigations


- Life Office Mortality Investigations
Dave Grimshaw
- Self-Administered Pensions Mortality Investigation
Brian Wilson
- Mortality Projections
Dave Grimshaw



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Life Office Mortality Investigations: Agenda

- “00” Series tables
- Extension of pensioner tables to younger ages
- Subsequent experience
- ‘Per Policy’ data



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"00" Series - Chronology

- WP8 (May 2004) – initial findings
- WP12 (Apr 2005) – assured lives proposals
- WP16 (Sep 2005) – annuitant/pensioner proposals
- WP21/22 (Jul 2006) – final tables, adopted 1 Sep 2006
- WP26 (Apr 2007) – Early/Combined pensioner extensions to young ages

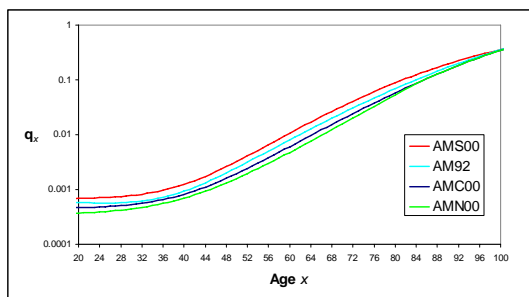
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"00" Series base tables

- AM00 & AF00, 2 year select) Combined, Smoker
- TM00 & TF00, 5 year select) & non-smoker
- PMA, PML, PFA, PFL
 - Normal, Early, Combined
- PPM,PPF (new, lives only)
 - Vested, Deferred, Combined
- IML, IFL (No amounts this time, funny data)
- WA, WL
- RM, RF (lives only, as before)
 - Vested, Deferred (new), Combined (new)

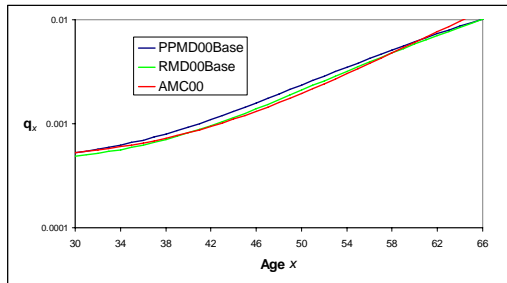
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New "00" Series tables: smoker status



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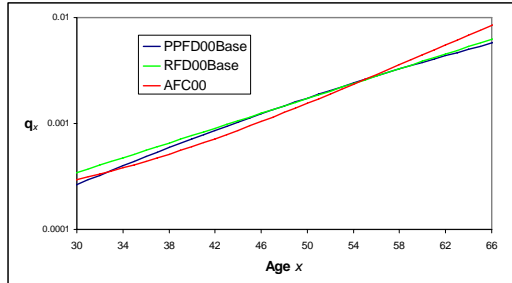
"00" Series tables: Personal Pensions



Personal Pensions in deferment, Males

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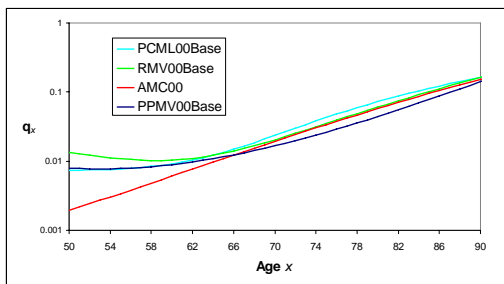
"00" Series tables: Personal Pensions



Personal Pensions in deferment, Females

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"00" Series tables: Personal Pensions



Personal Pensions in payment, Males

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Extension of Pensioner tables to younger ages

- Draft "00" Series rates for pensioners started at age 50
 - Low data volumes at the younger ages
 - Tables were a good fit to data for ages 51-65
- Feedback - need for rates to be extended down to younger ages.
- Final "00" Series tables for Normal retirements started at age 20
 - Based on blend to assured lives mortality at young ages
 - Amended rates ages 51-65 – no longer fit data
- "00" Series rates for Early and Combined retirements still commenced at 50
- Working Paper 26 suggests possible extensions down to age 20
 - Other approaches may also be equally appropriate
 - The CMI is not seeking approval for these rates from the Profession

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Extension of Pensioner tables: low data volumes

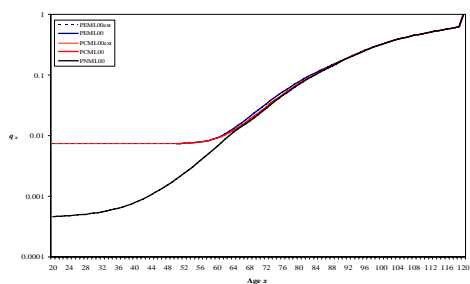
	Normals		Earlies	
Ages	Actual Deaths	Expected Deaths	Actual Deaths	Expected Deaths
21-50	36	5	55	44
51-100	53,450	53,517	20,181	20,243

Normals compared to PNML00

Earlies compared to extended table

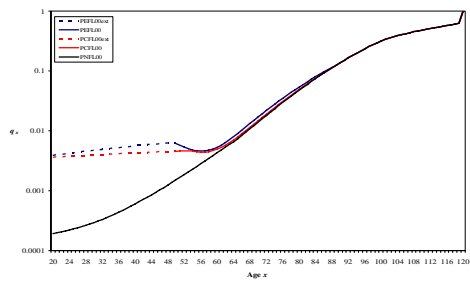
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PNML00 and extensions to younger ages



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PNFL00 and extensions to younger ages



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“00” Extensions - Comments

- Not officially adopted
- Other approaches equally valid
- Responsibility rests with actuary
- Normals assume ‘healthy’ lives...
- ... so don't fit data!
- Combined/Early may be more appropriate where pensioners are not all “healthy”

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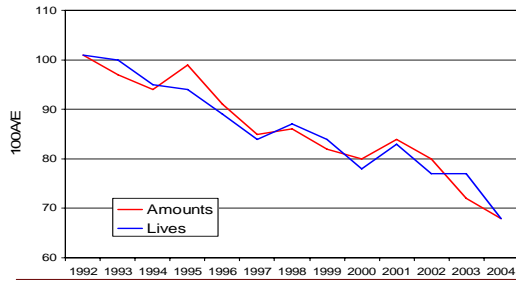
Experience subsequent to “00”

- Results released to members for 2003 and 2004
- Assured lives data to 2004 also made available with software
- 2005 data collection nearly complete...

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Experience subsequent to "00"

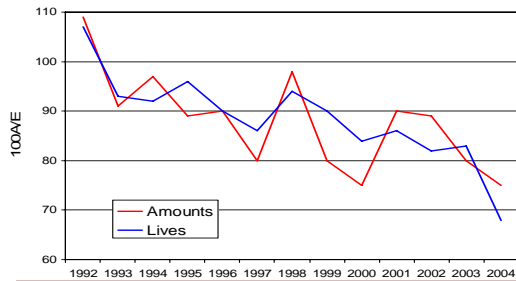
Male Life Office Pensioners 100A/E, E= "92" Series mortality rates, Normals



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Experience subsequent to "00"

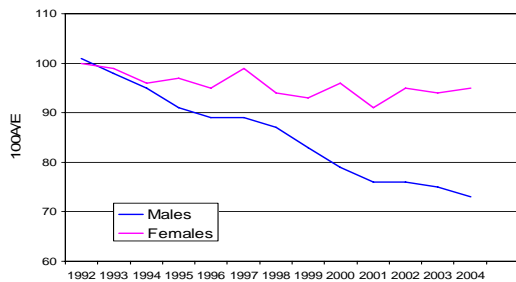
Female Life Office Pensioners 100A/E, E= "92" Series mortality rates, Normals



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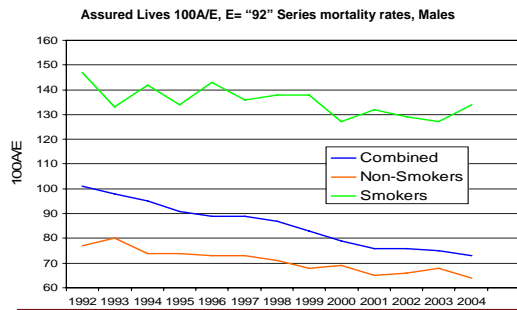
Experience subsequent to "00"

Assured Lives 100A/E, E= "92" Series mortality rates



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Experience subsequent to "00"



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Experience subsequent to "00"

- Male experience has continued to improve to 2004
- Female experience appears to have improved for Life Office Pensioners, not so for Assured lives
- Improvement 2003 -> 2004 particularly pronounced...
- ... may have impact on projections
- Improvements on Assured Lives at least partially explained by changes in prevalence of smoking
- Individual year results vulnerable to changing mix of offices

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'Per Policy' initiative

- Background
- Objectives
- Key Differences:
 - Day Count
 - Central Exposures
 - Investigation codes
 - Additional data fields
- Timetable

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Background to the Per Policy initiative

- Mortality investigation collects "Scheduled" data:

Male, Non-smoker, Whole Life & Endowment

Duration			
Age	0	1	2+
30	34	29	231
31	37	31	301, etc.

- Not easily supplied => falling data volumes
- Limited validation / verification
- Current systems developed in 1980's
- Rigid outputs

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Objectives

- To make data submission easier
- ... to increase data volumes
- To capture additional data items
- ... to produce more valuable analyses
- To increase data validation and verification
- To increase flexibility (input and output)
- To replace the current Mortality systems

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Key Differences: Day Count / Central Exposures

- No longer proposing a 'Census' approach:
 - End-year data submission now includes all 'offs' and 'date of exit'
 - Date of entry included
 - Allows more accurate calculation of exposure
 - Excludes periods where policies are 'off-risk'
- Will seek to provide comparison to 'Census' approach

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Key Differences: Claim Notification

- Previously offices asked to wait 6 months so virtually all claims notified
- Now, claims submitted according to processing date
 - Delayed claims reported in subsequent years
 - Less delay in submitting data
 - No claims missed
 - Adjustment needed for IBNS

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Key Differences: Investigation codes

- Mortality investigation currently has fixed "Investigation Codes", e.g. 01=Whole Life & Endowment
- Difficult to start new investigations or combine existing ones
- Difficult to know whether offices are submitting data to the right investigation
- CI already uses "Product Code" :
 - Office tells us their product name or code
 - Office supplies product information
 - CMI decides how to segment the analyses
- Asking offices to advise previous investigation number

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Key Differences: Additional data fields

Improved analysis

- Amounts data
- Postcode
- Policy Duration
- Distribution Channel
- Type of Entry
- Dates of Claim

Increased data validation

- Client Identifier
- Type of Entry
- Type of increment/decrement
- ABI New Business Code
- Validation across years

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'Per Policy' Timetable

2002 : CMI surveyed offices on feasibility - encouraging response

2005 :

- April - draft Coding Guide issued (Working Paper 13) for consultation
- October – first Per Policy data submission received!
- December - Working Paper 19 published, including revised Coding Guide covering both Mortality and CI

2006 :

- Systems design/development commenced
- Several further data submissions from offices
- Expected that most will adopt for 2005 or 2006 data
- 2006 investigation year is last will accept scheduled data for mortality

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