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A3: A critical update – CMI CI results

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

23 May 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
Methodology	A recap of historic approaches and how our new methodology differs
Exposure	Highlighting splits of exposure by key rating factors
Results	Draft results for - Accelerated Critical Illness - Standalone Critical Illness - Mortality
Future work	What we are planning to do next

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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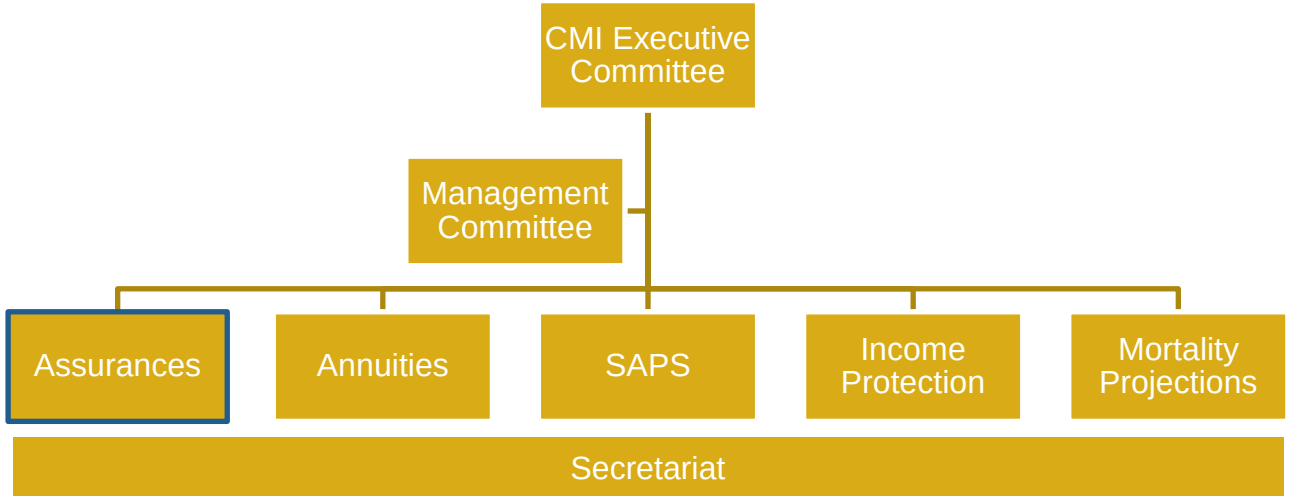
Assurances Committee

- How we fit in



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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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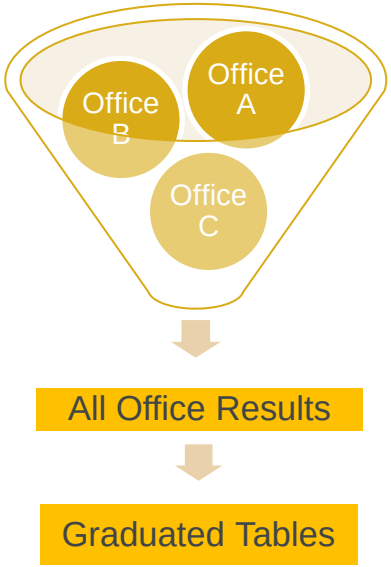
Assurances Committee



- 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

- 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*

- 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

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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
- Four tables for each gender/smoker status
- 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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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 & Mortality
- Intended to make data submission as easy as possible

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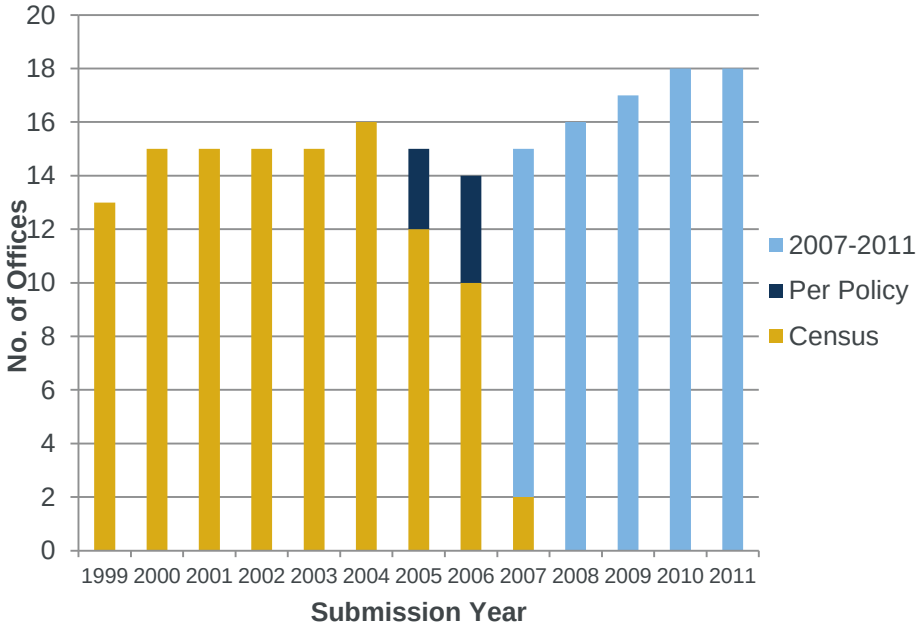
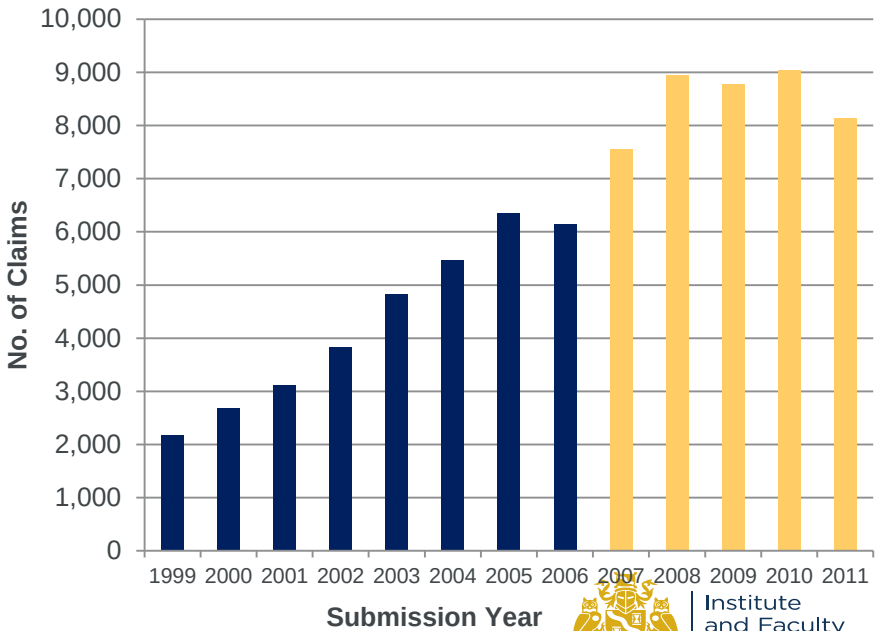
2007-2011 data collection exercise (CI)

Number of contributing offices



Number of claims



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Change in mix of offices (CI)

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CMI Assurances – Results methodologies (1)

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 & E, but presented using settlement timing
  - Also used as methodology for AC04 diagnosis rates

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CMI Assurances – Results methodologies (2)

Assurances – going forward

- Actual Incurred Claims v Expected Incurred Claims
- Match A & E, but need:
  - 2012 data to (almost) complete the 2011 experience; or
  - an estimate of outstanding claims (IBNR)
- Described in WP67

No allowance for IBNR in draft results (but we have 2011 settled claims)

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Why these are DRAFT Results

- Data extract was taken before we had completed processing for some offices
  - we expect to include all these in the Final results
- We may receive queries on office's own results – an important part of our data validation process – and the Committee will undertake checks on the results
  - we would want to correct known issues if they are material.

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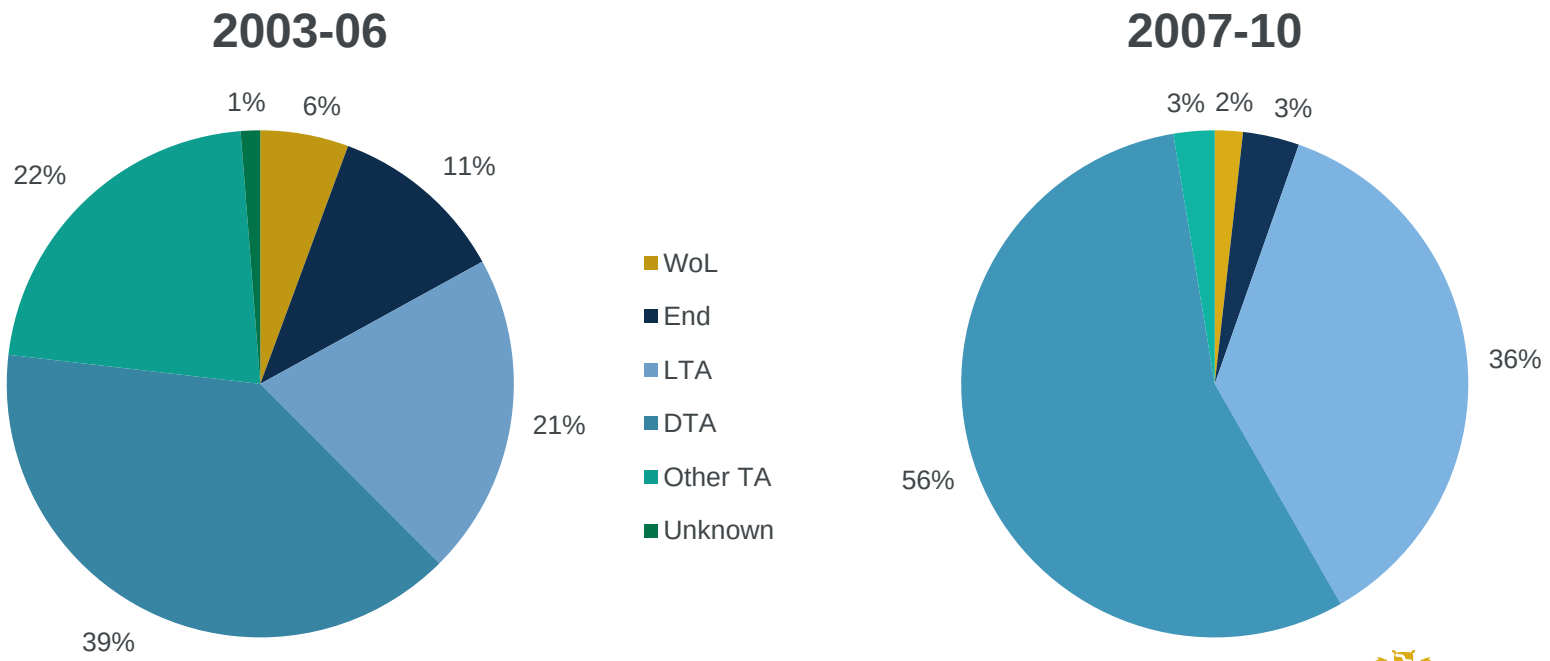
Exposure by Product (ACI)



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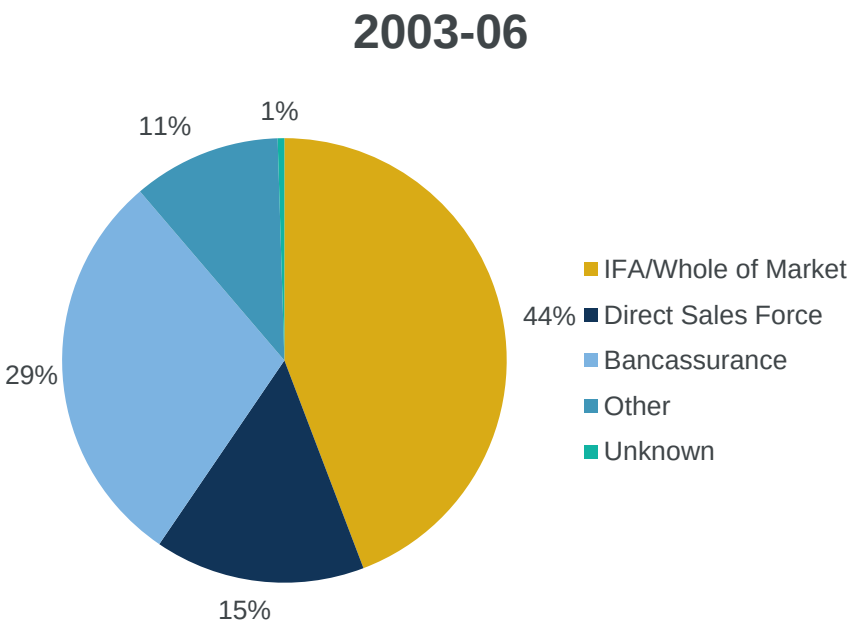
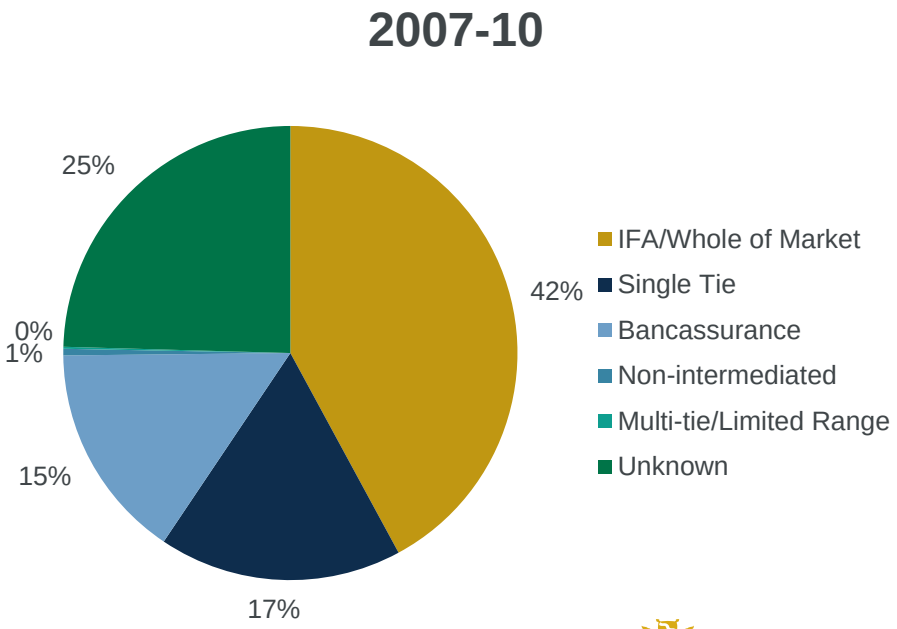
Exposure by Distribution (ACI)





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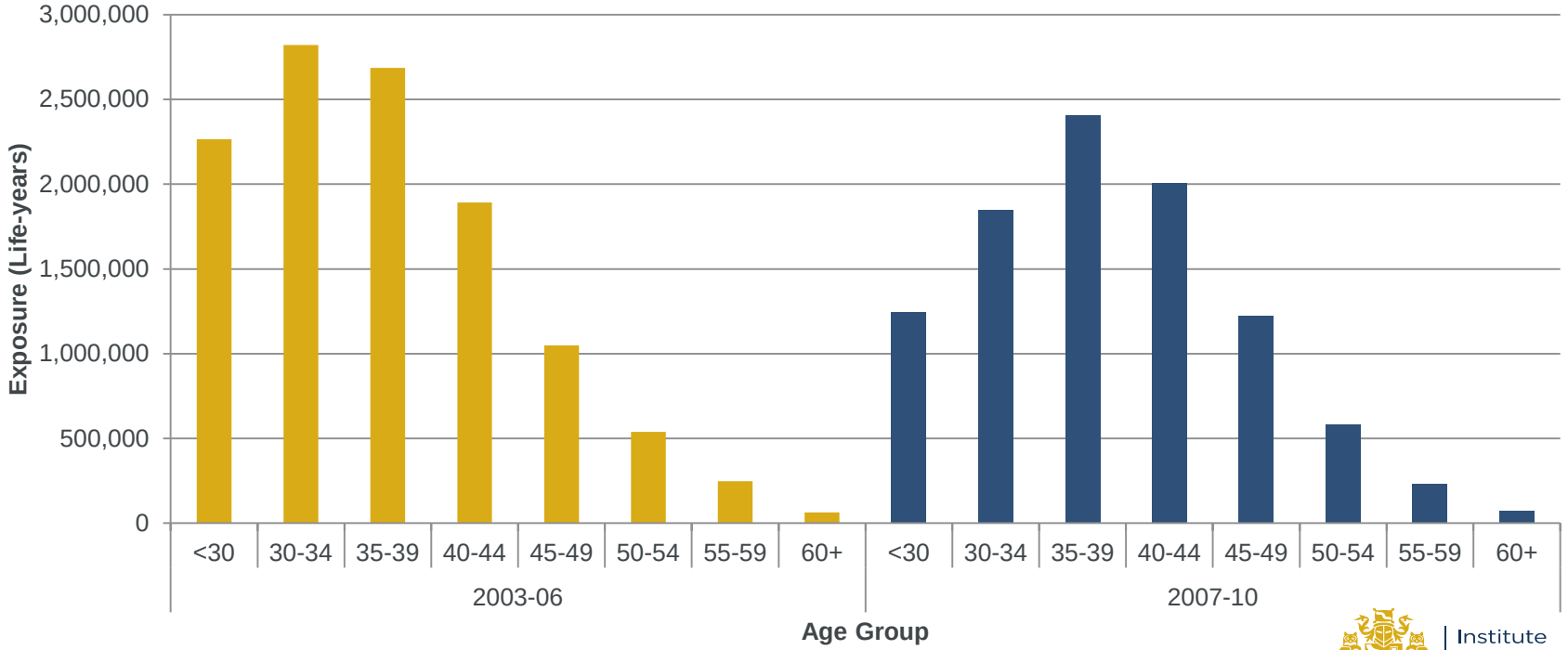
Exposure by Age (ACI)



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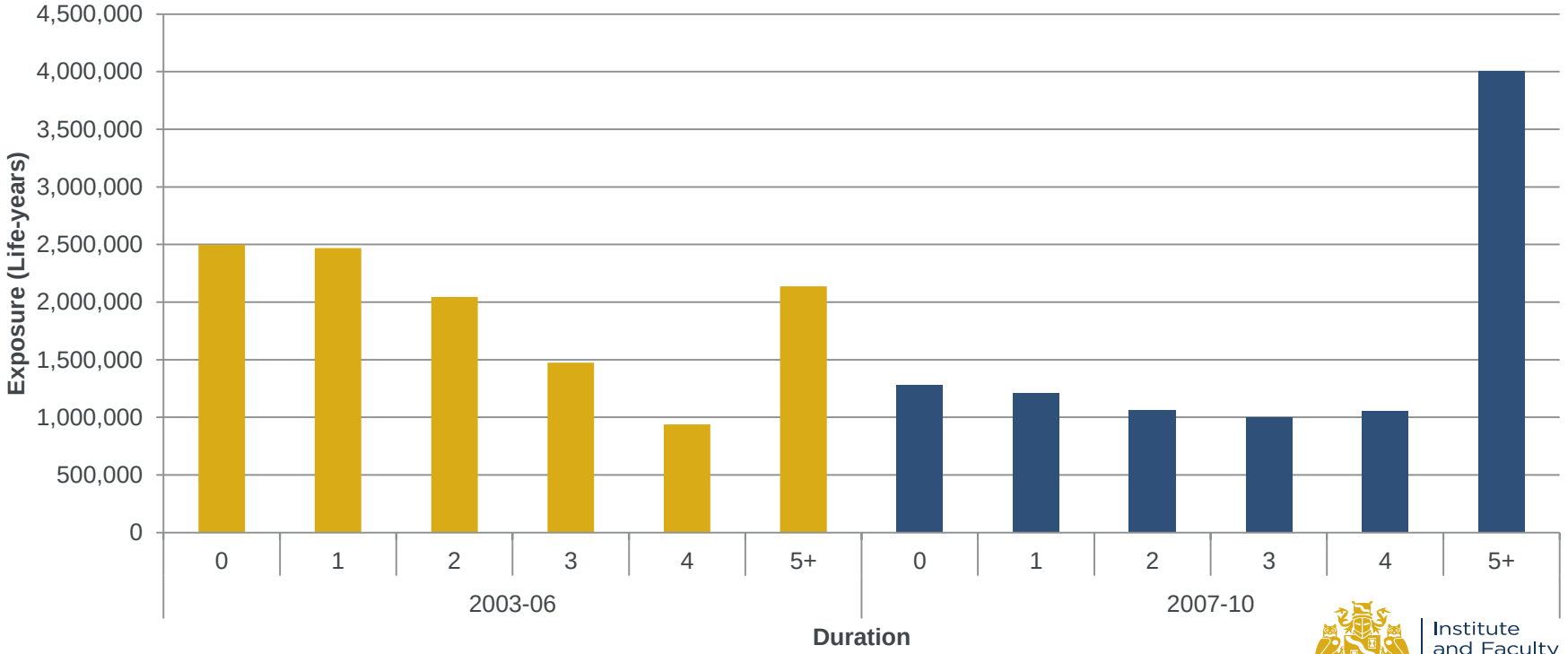
Exposure by Duration (ACI)



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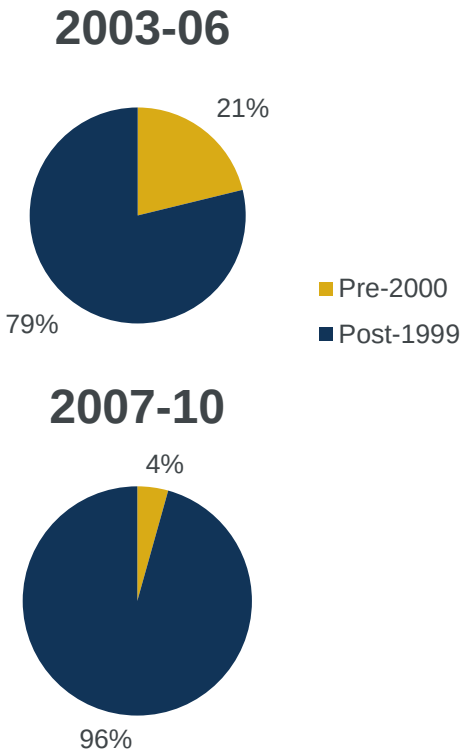
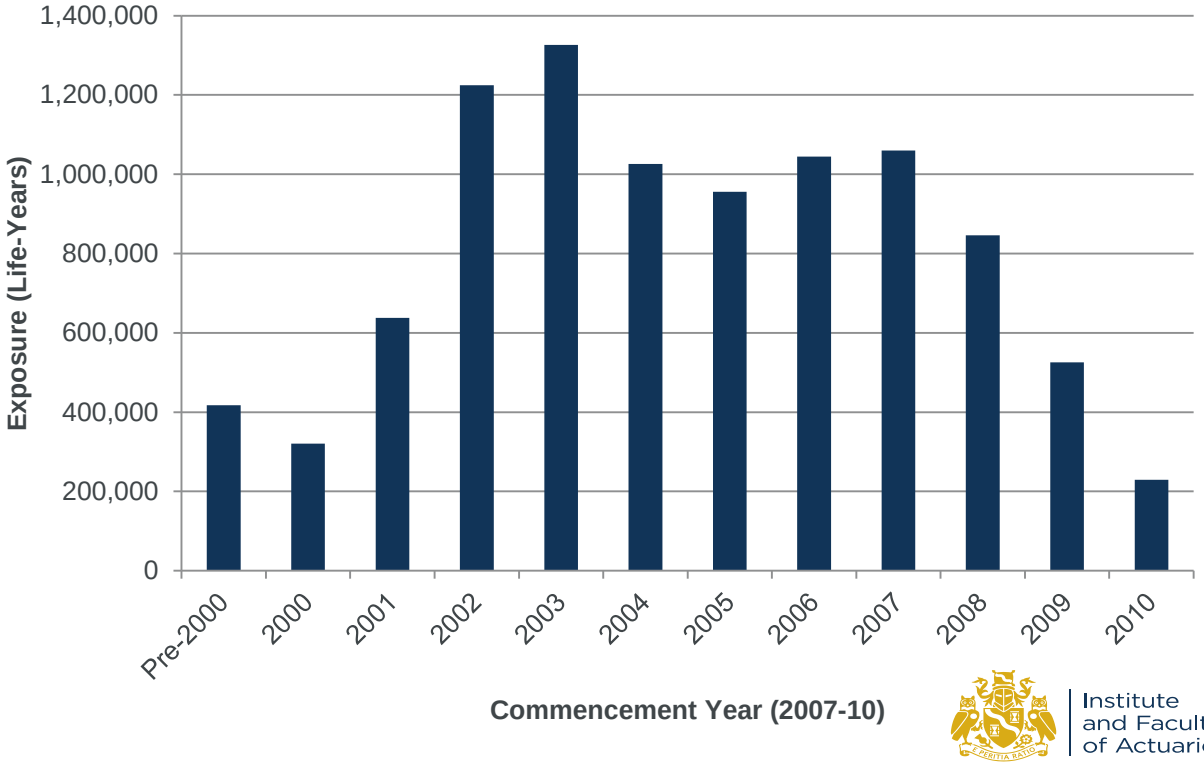
Exposure by Commencement Year (ACI)





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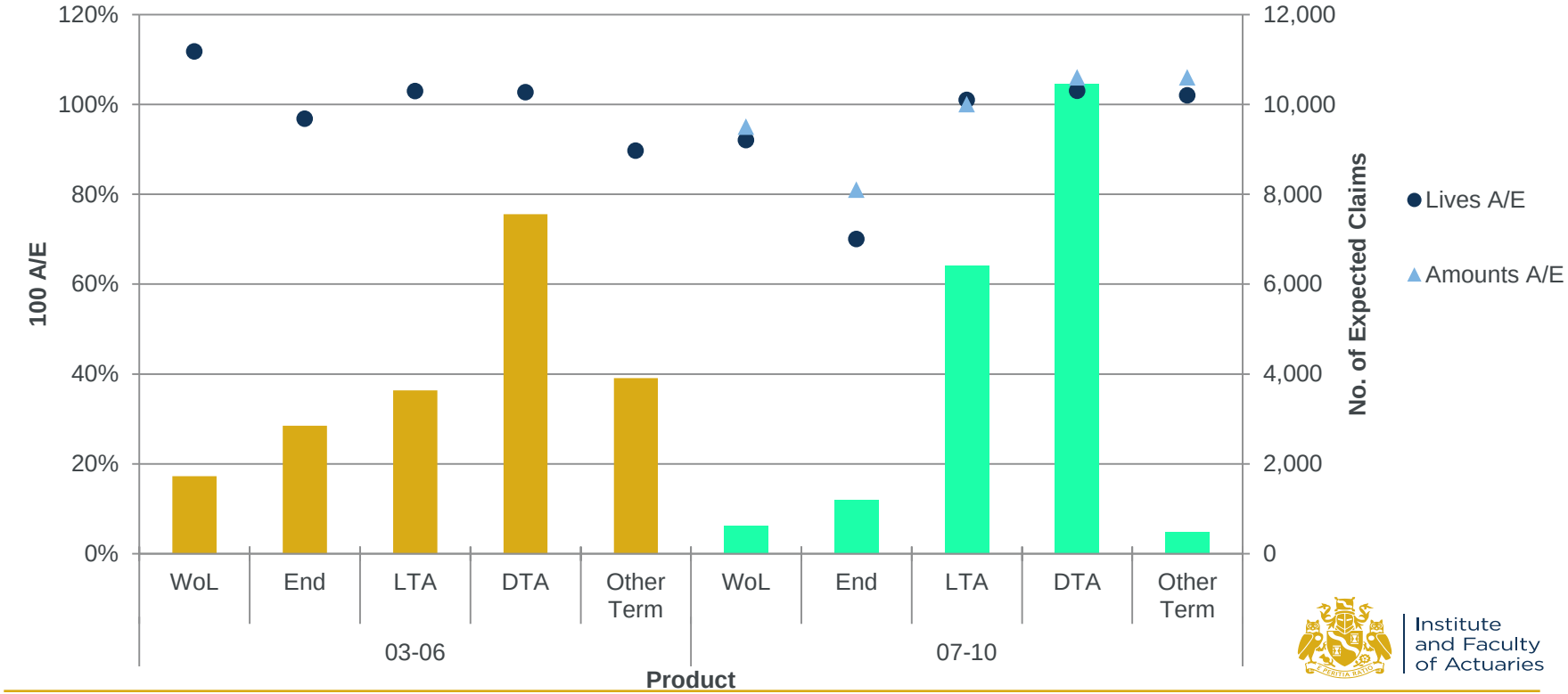
Draft ACI Results by Product



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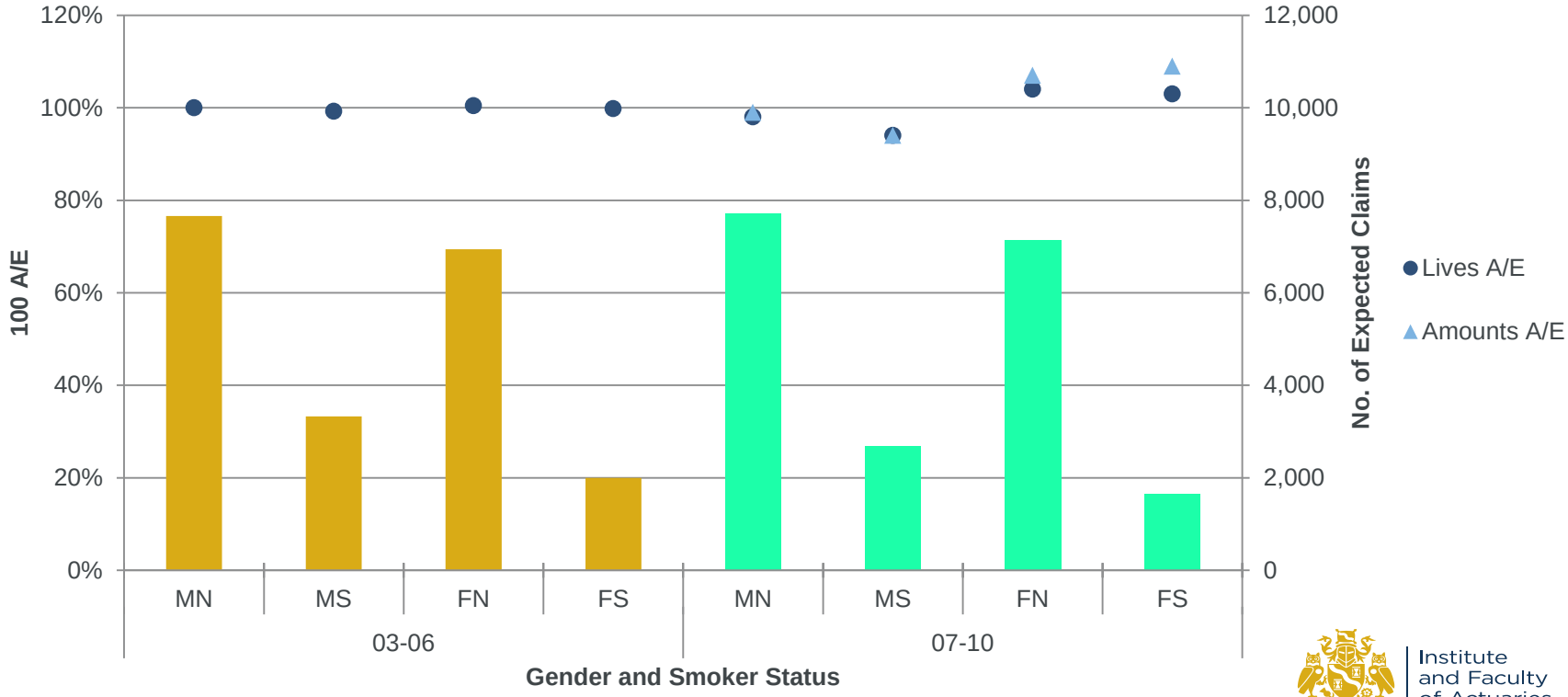
Draft ACI Results by Gender and Smoker Status



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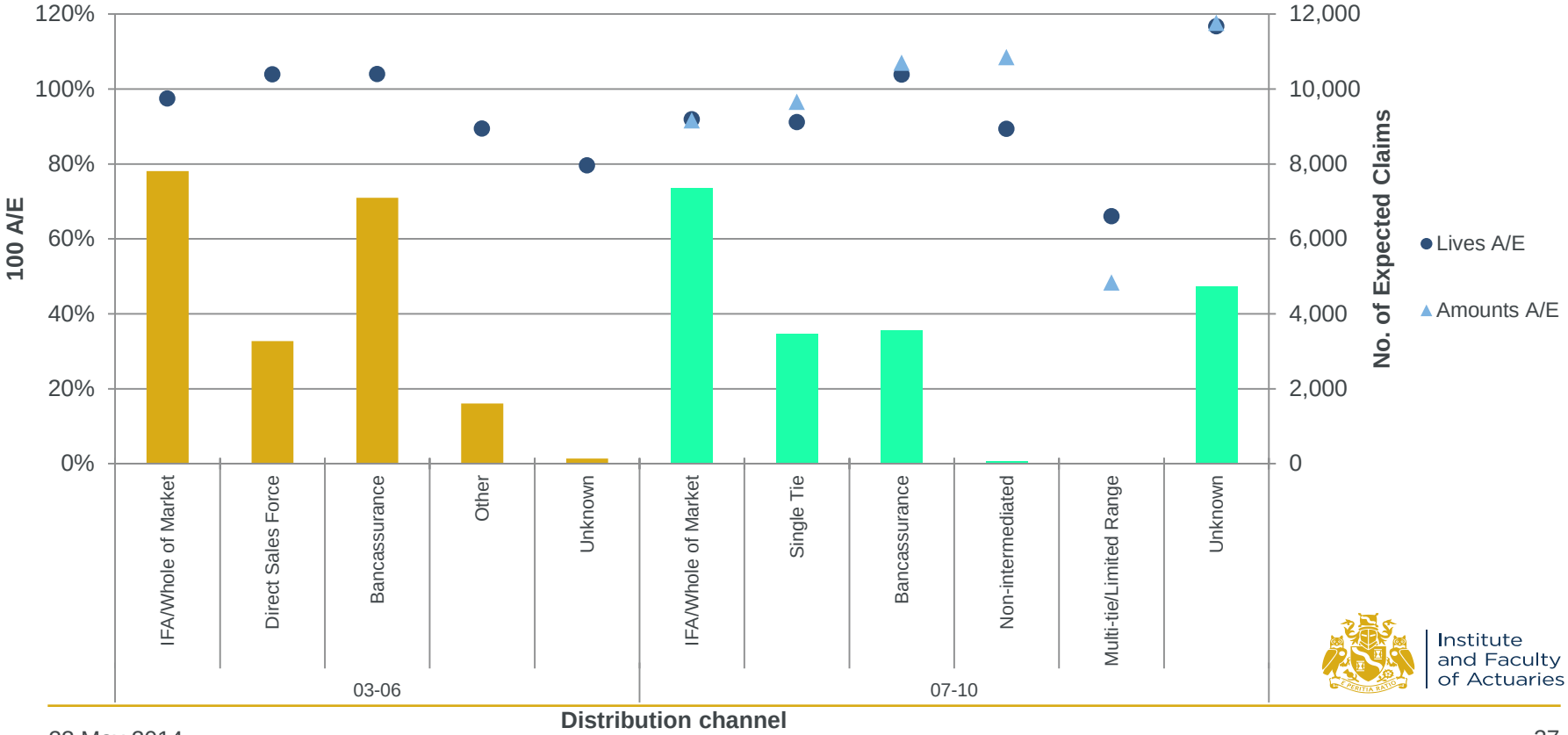
Draft ACI Results by Distribution



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Selection pattern in AC04 rates

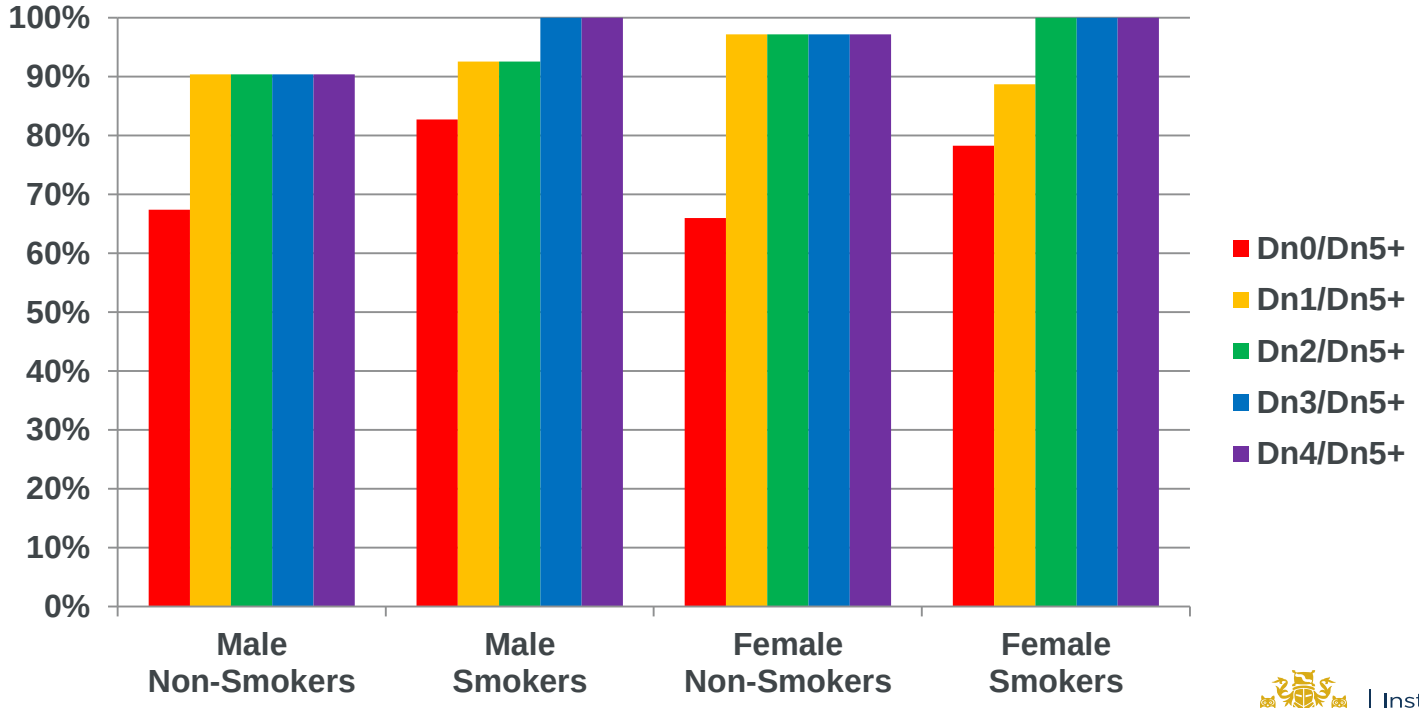

Figure 8.4 from Working Paper 50

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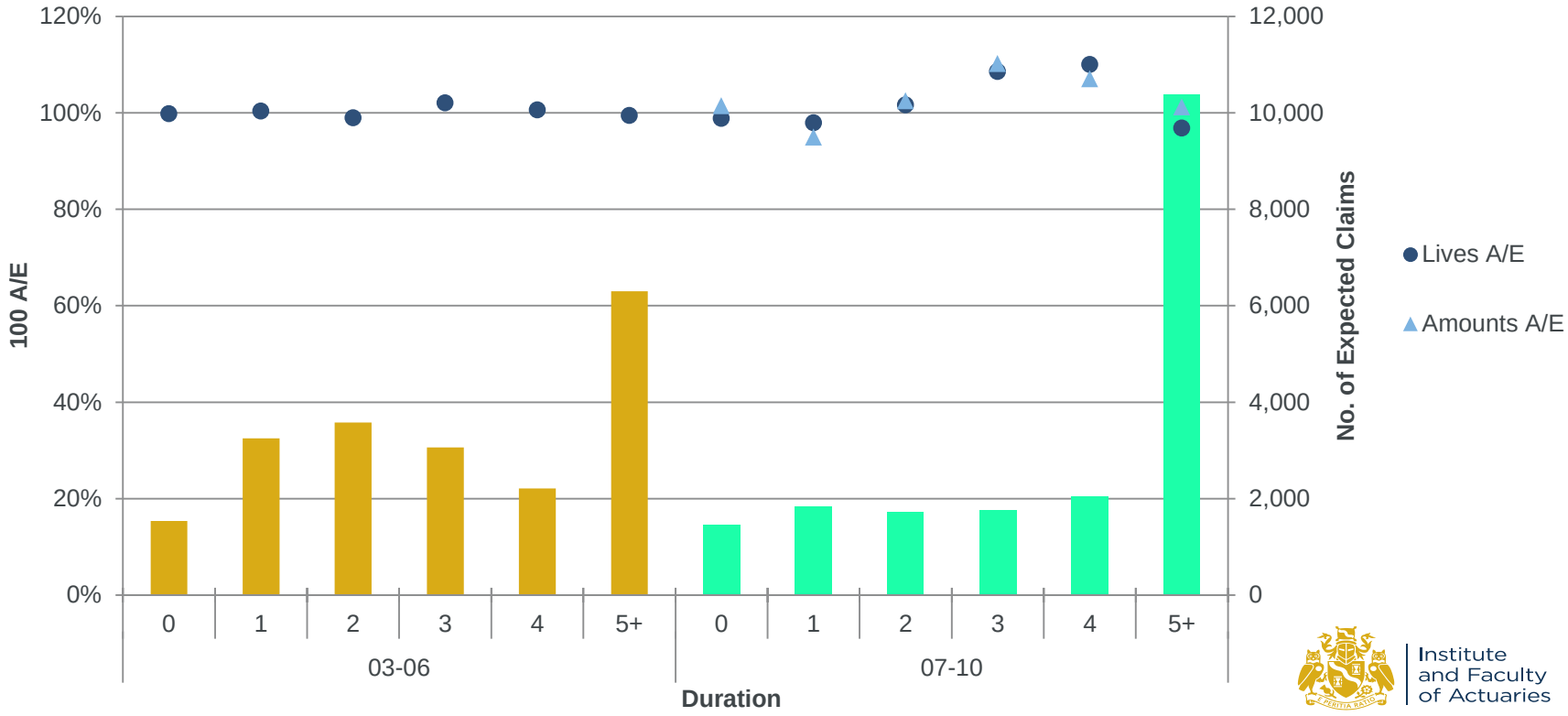
Draft ACI Results by Duration



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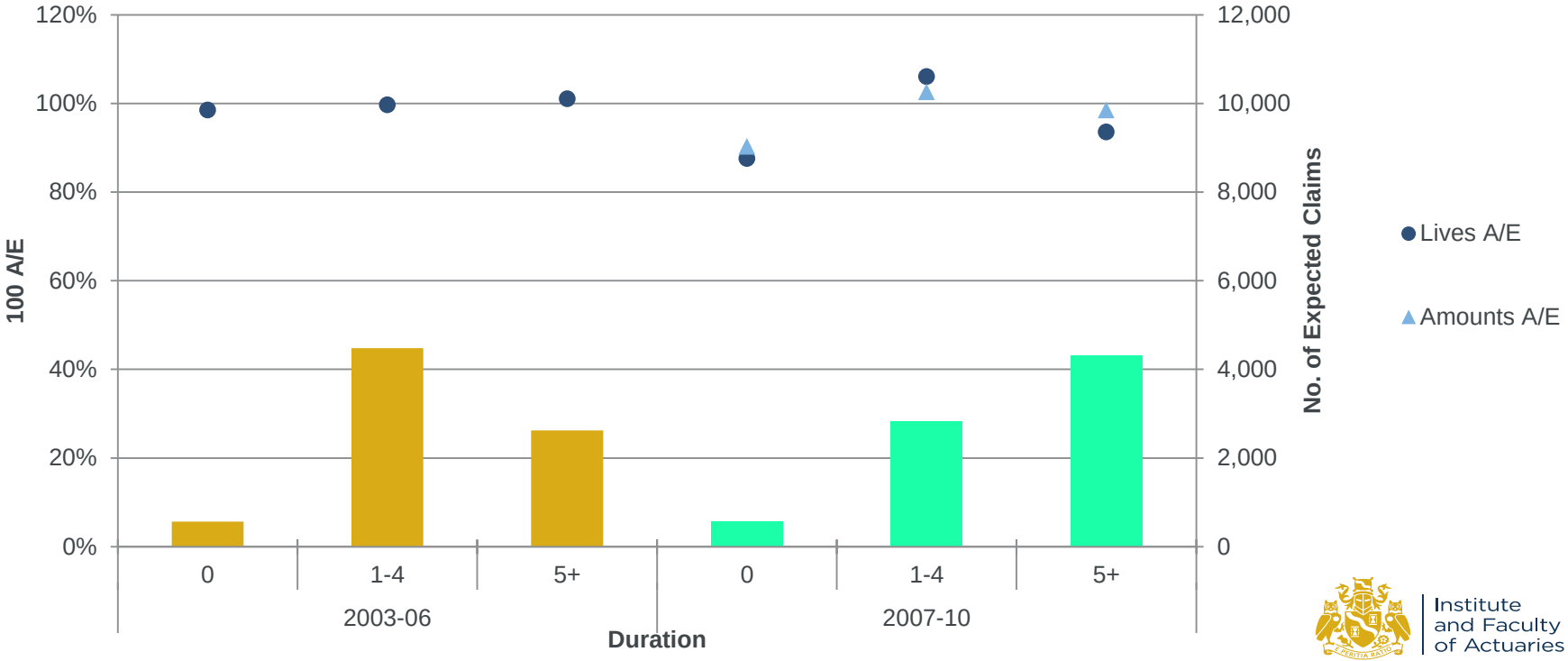
Draft ACI Results by Duration: Male Non-Smoker



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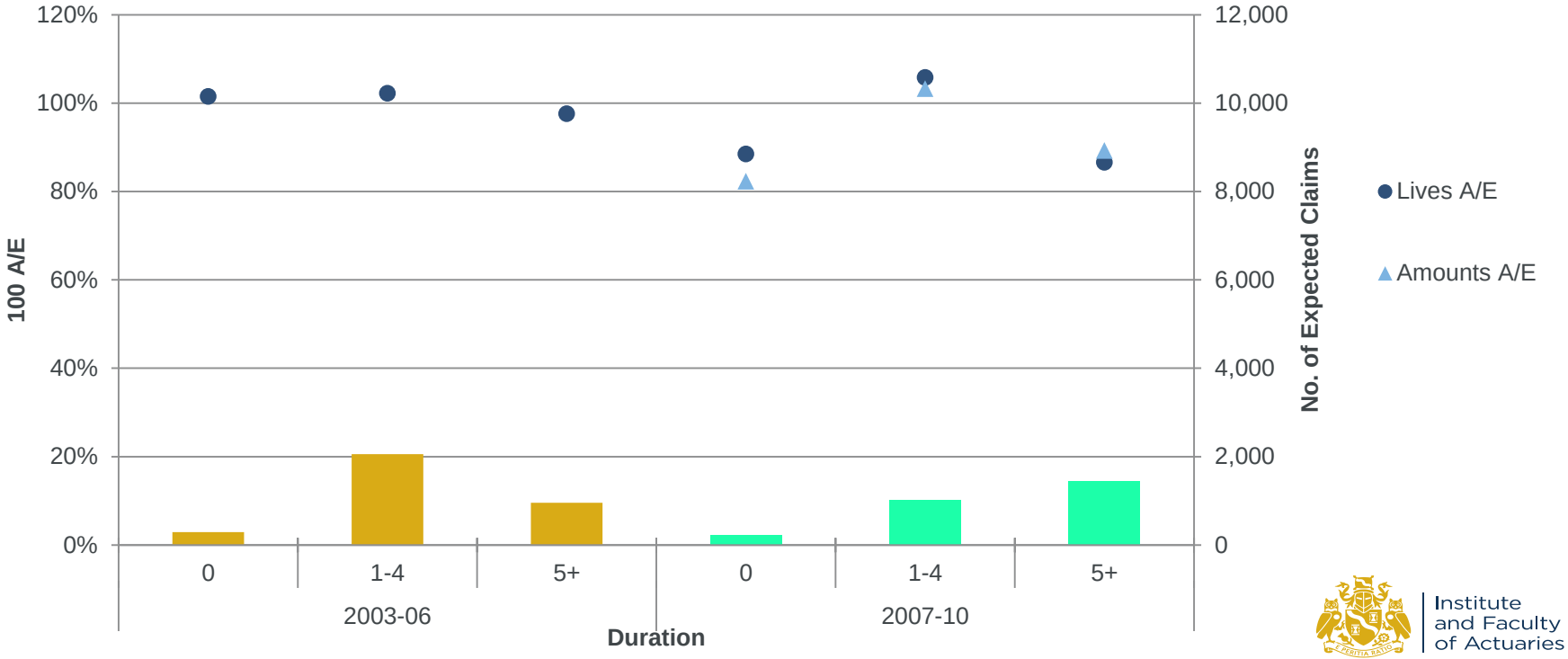
Draft ACI Results by Duration: Male Smoker



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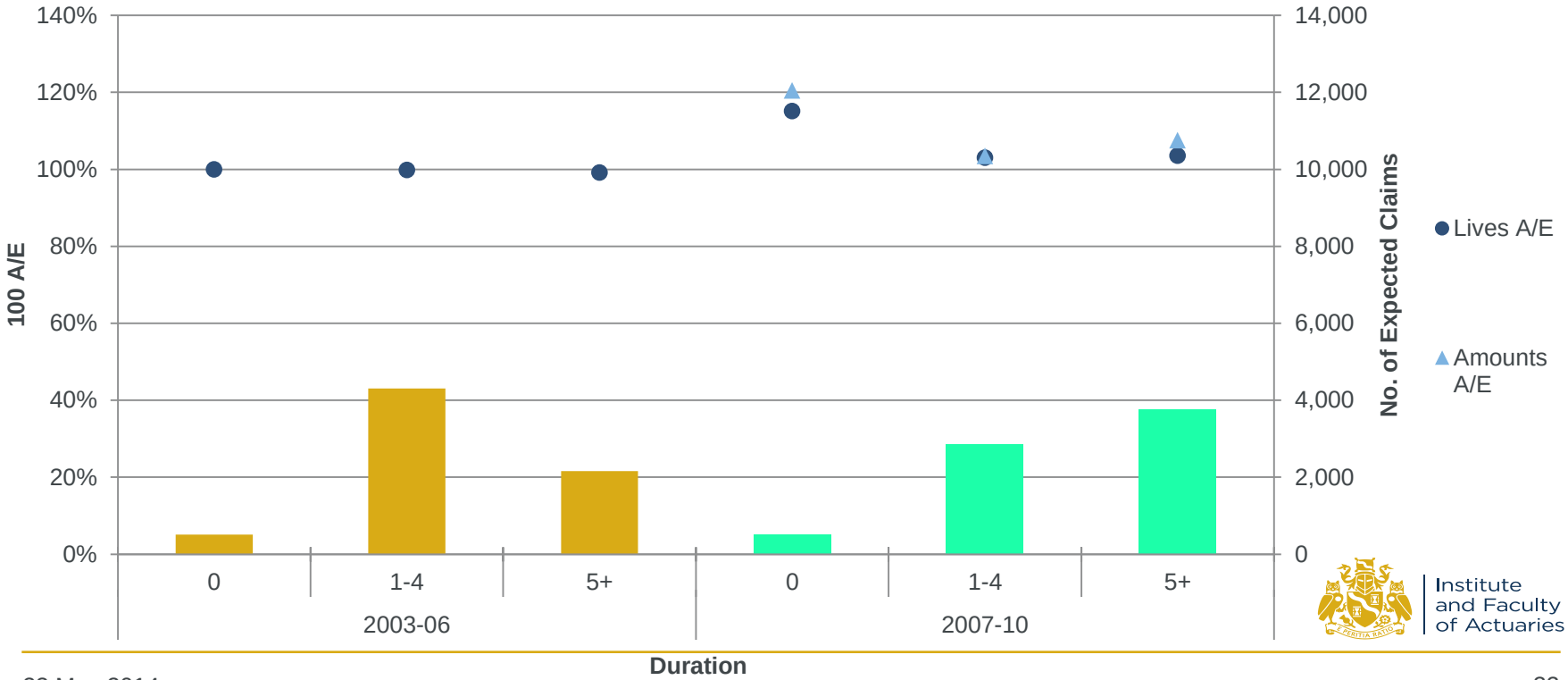
Draft ACI Results by Duration: Female Non-Smoker



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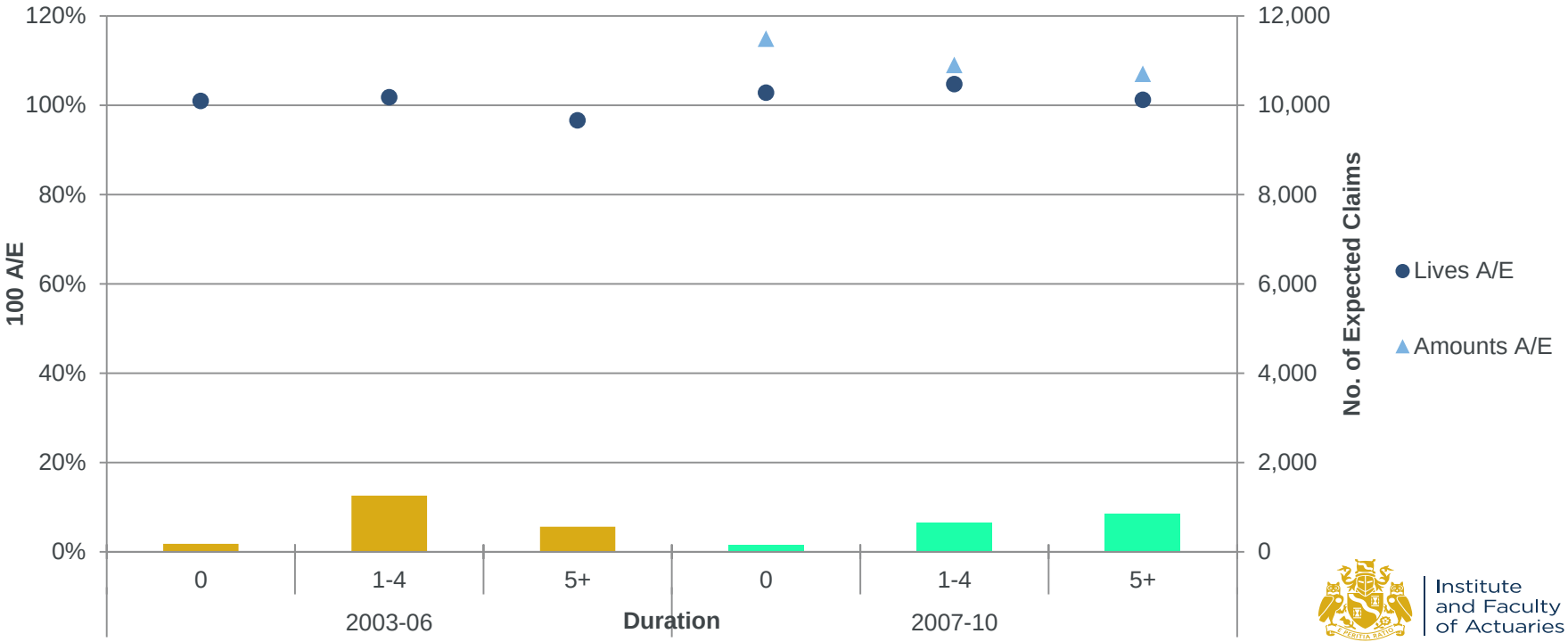
Draft ACI Results by Duration: Female Smoker



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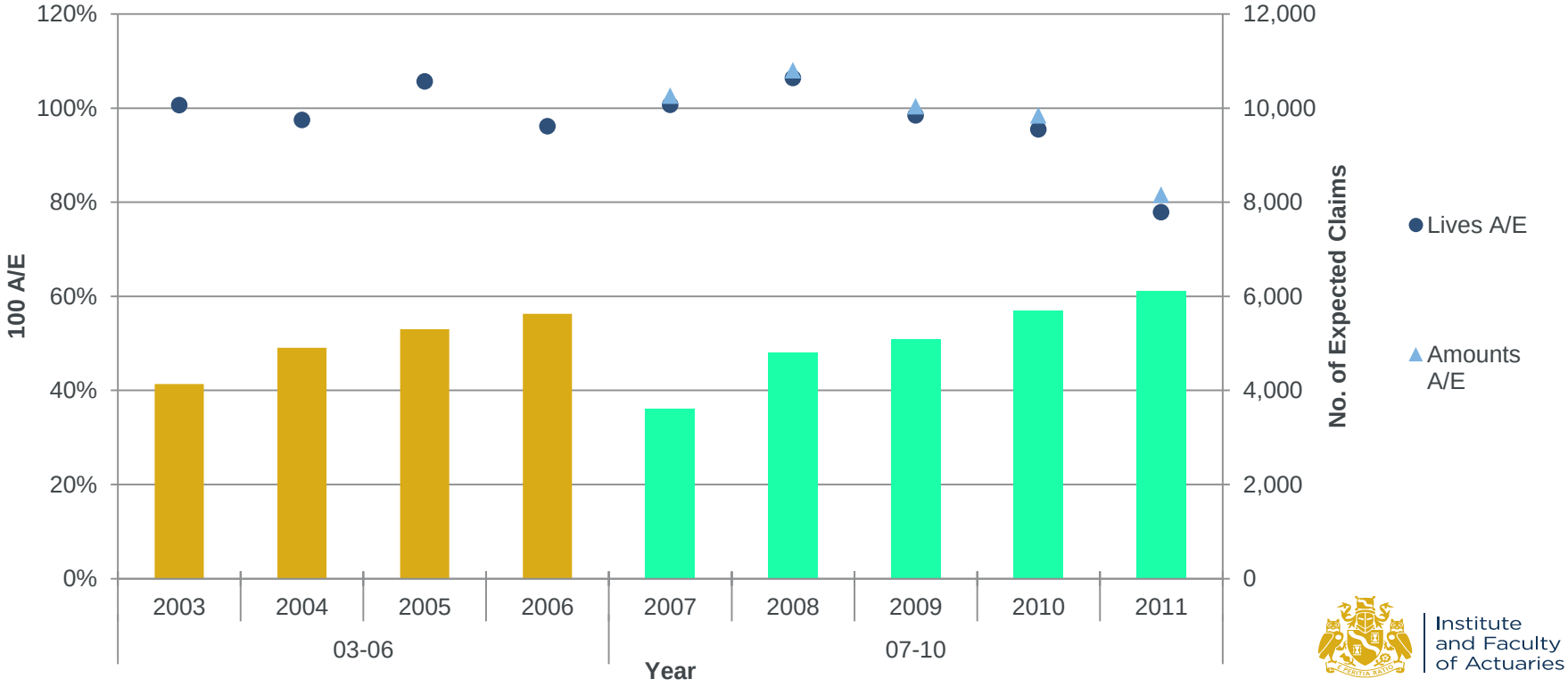
Draft Results by Calendar Year: Combined



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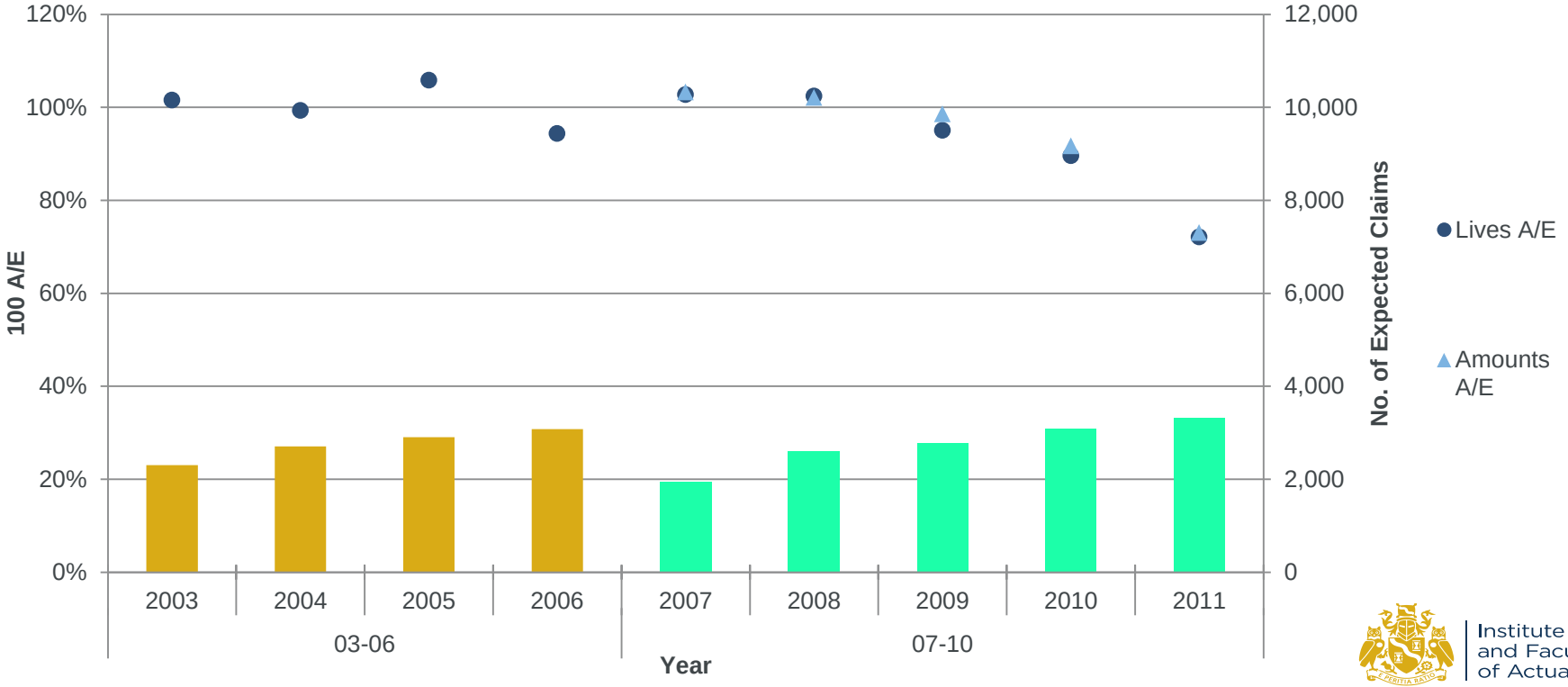
Draft ACI Results by Calendar Year: Male



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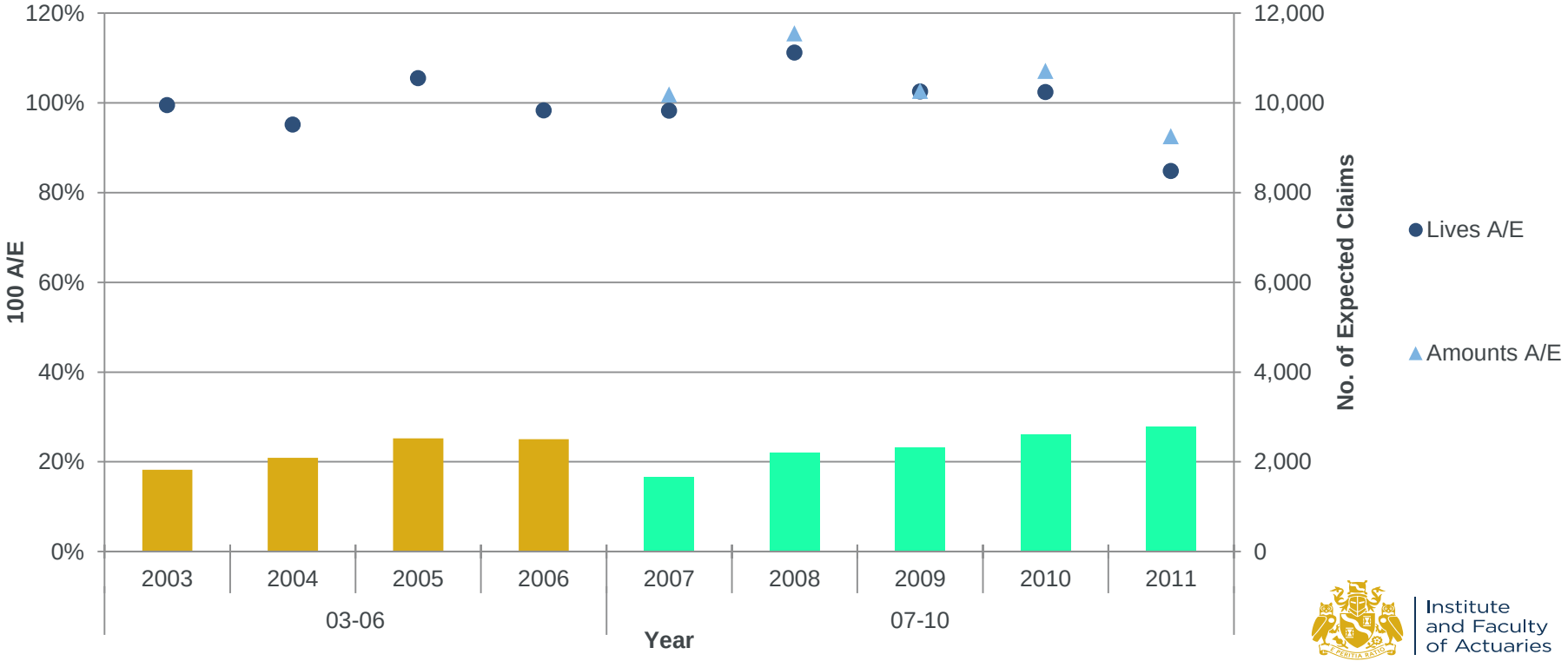
Draft ACI Results by Calendar Year: Female



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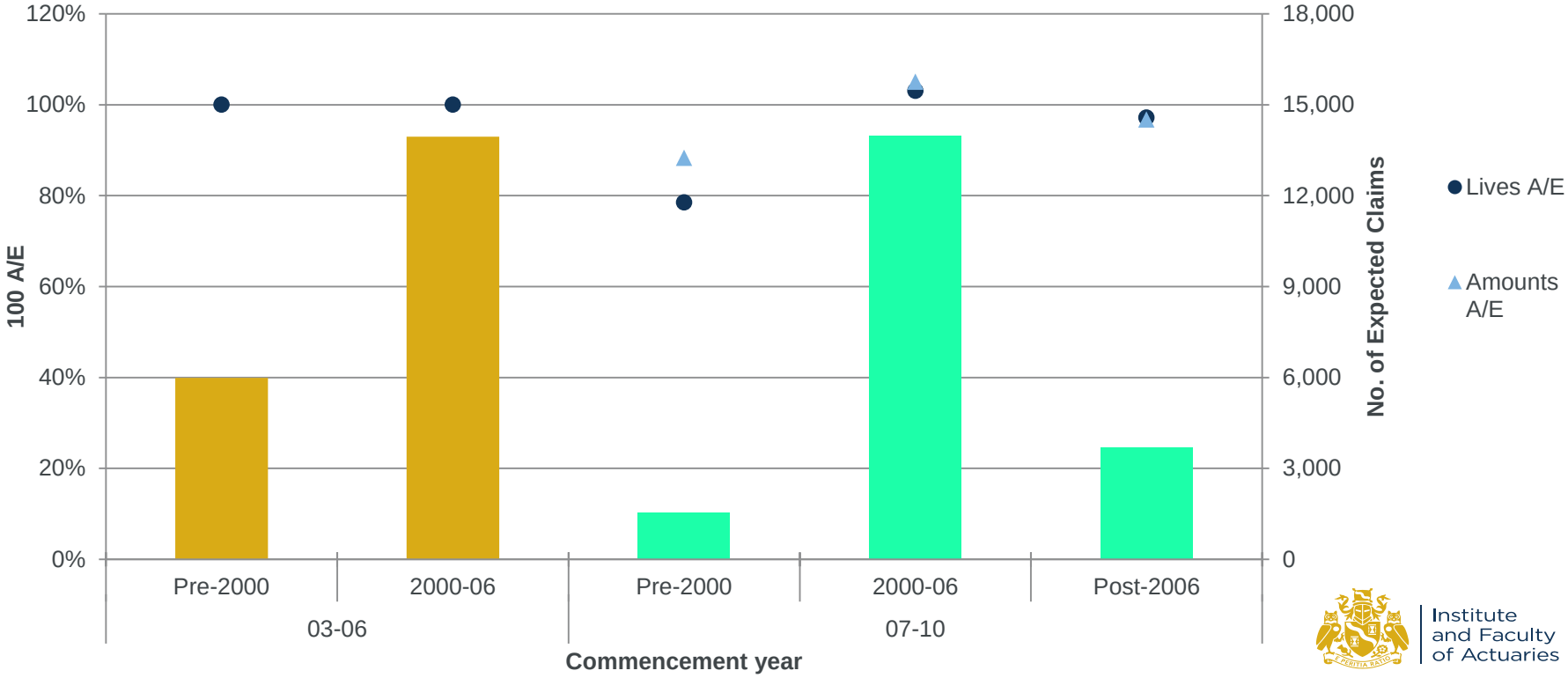
Draft ACI Results by Commencement Year



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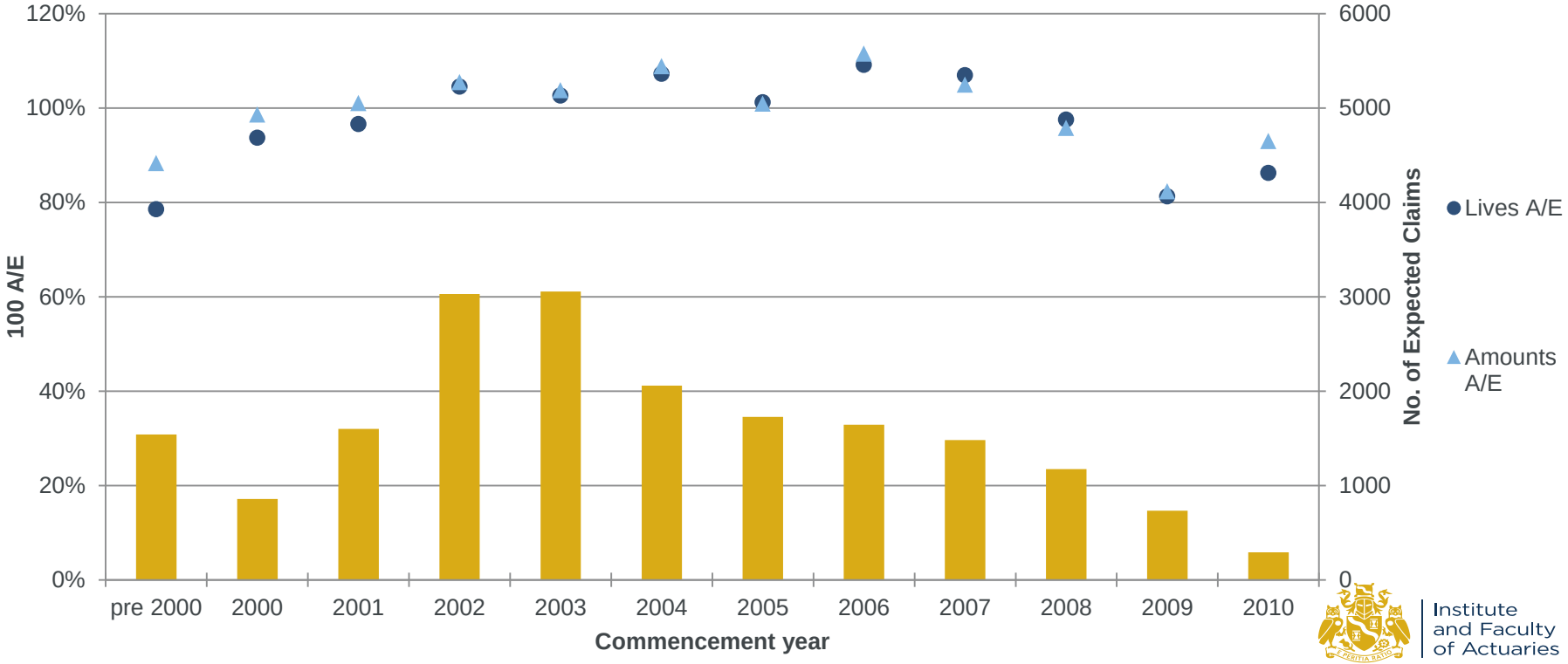
Draft ACI Results by Commencement Year: 2007-10



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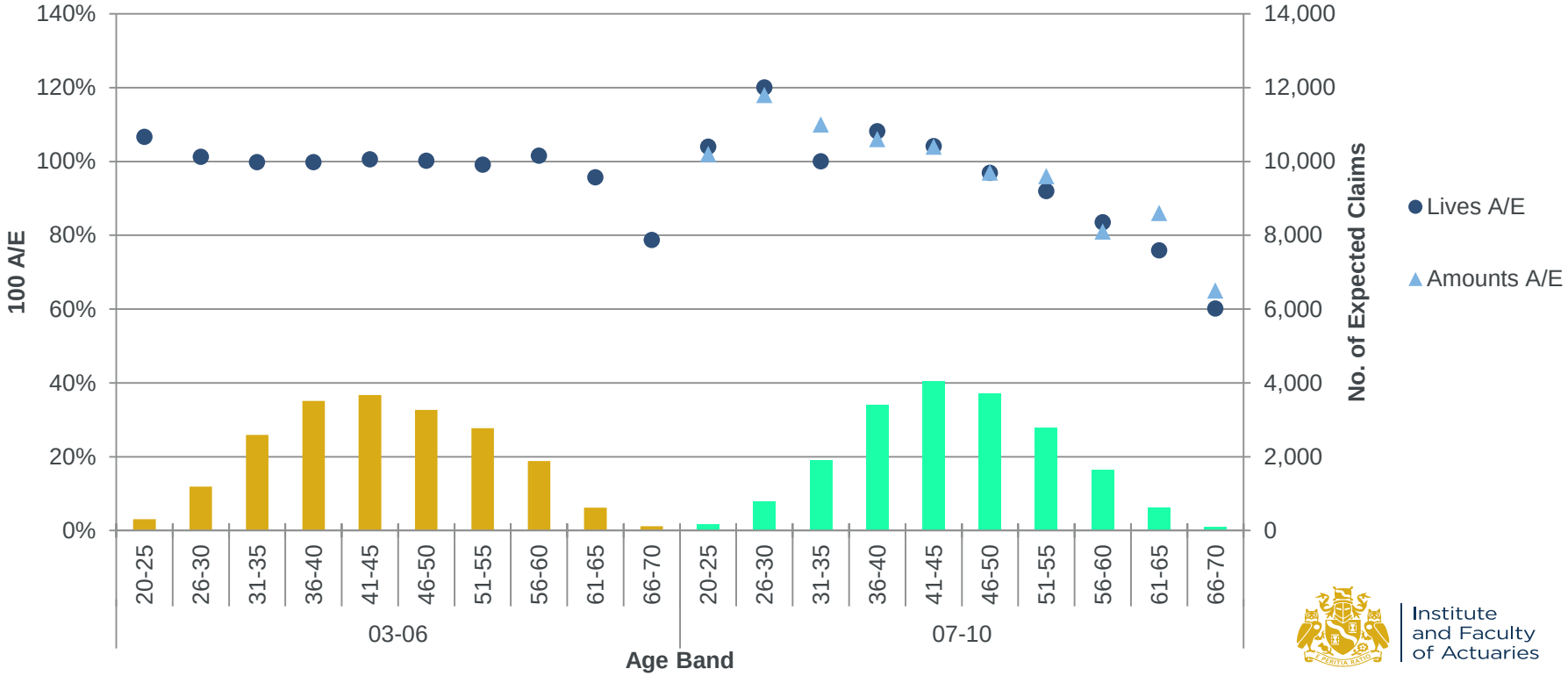
Draft ACI Results by Age



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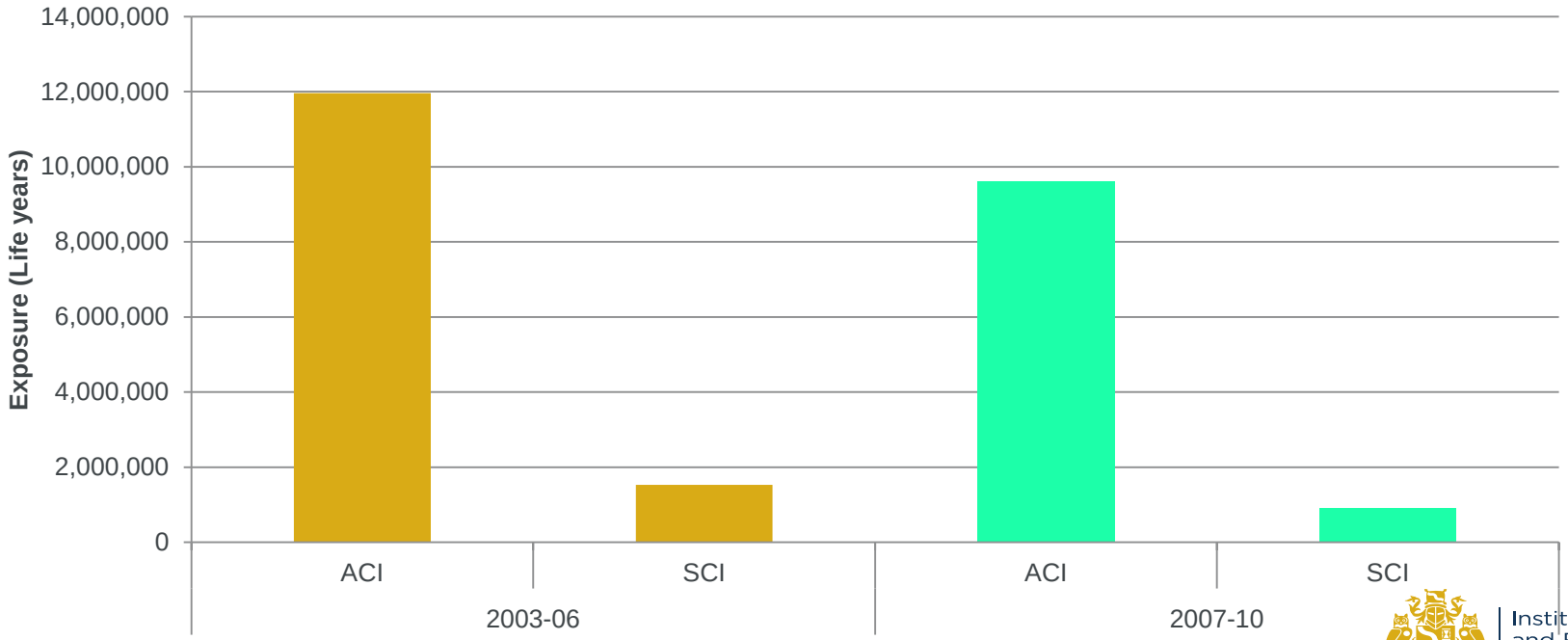
ACI vs SCI Proportions



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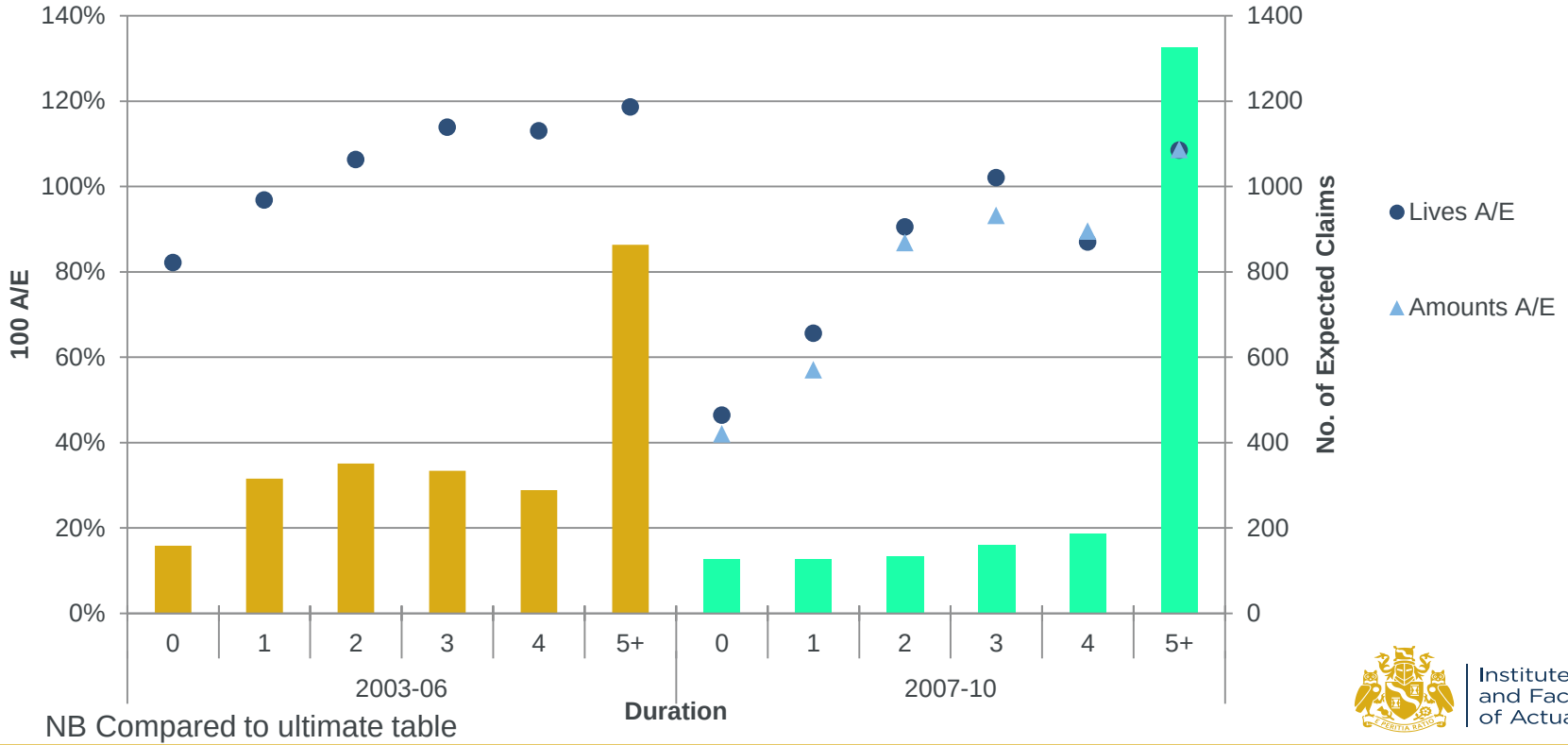
Draft SCI Results by Duration



NB Compared to ultimate table

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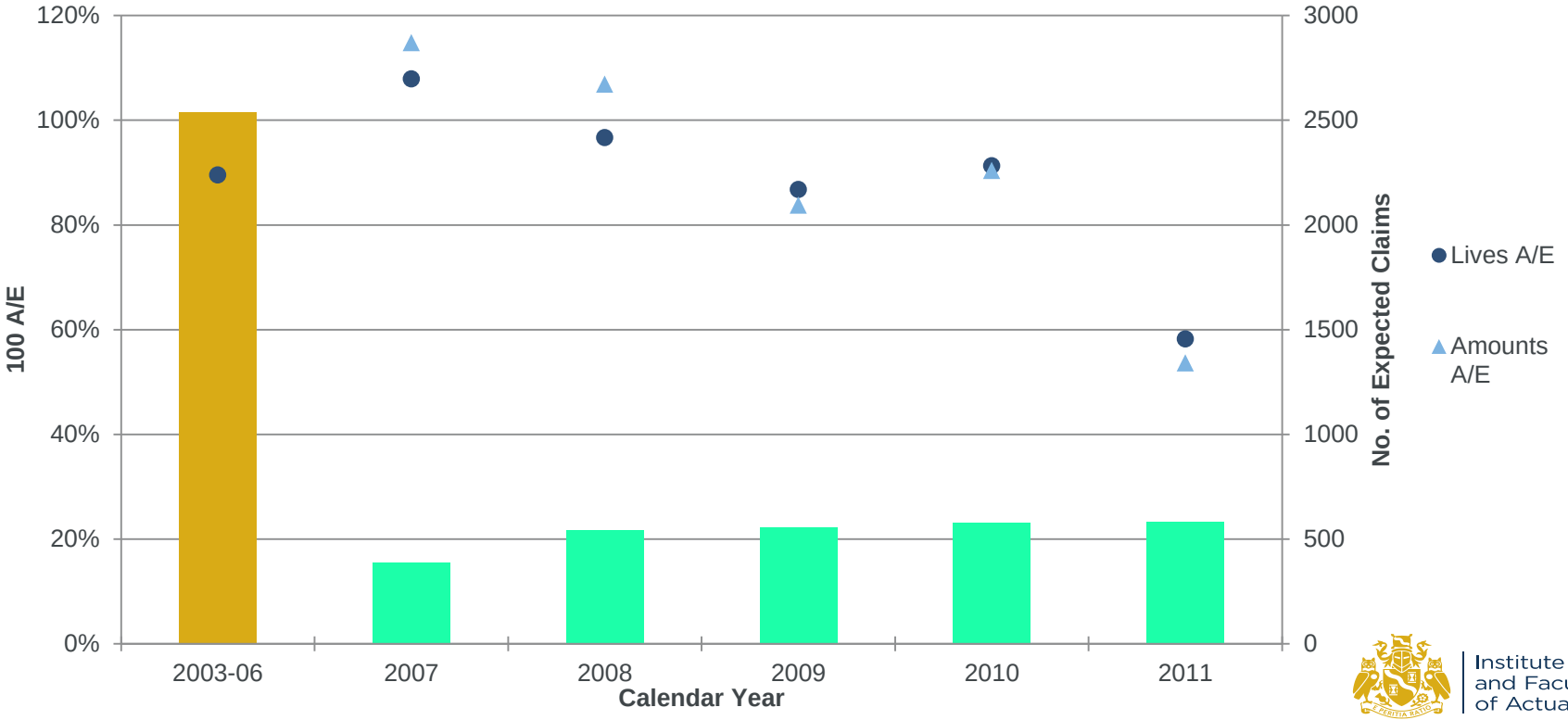
Draft SCI Results by Calendar Year



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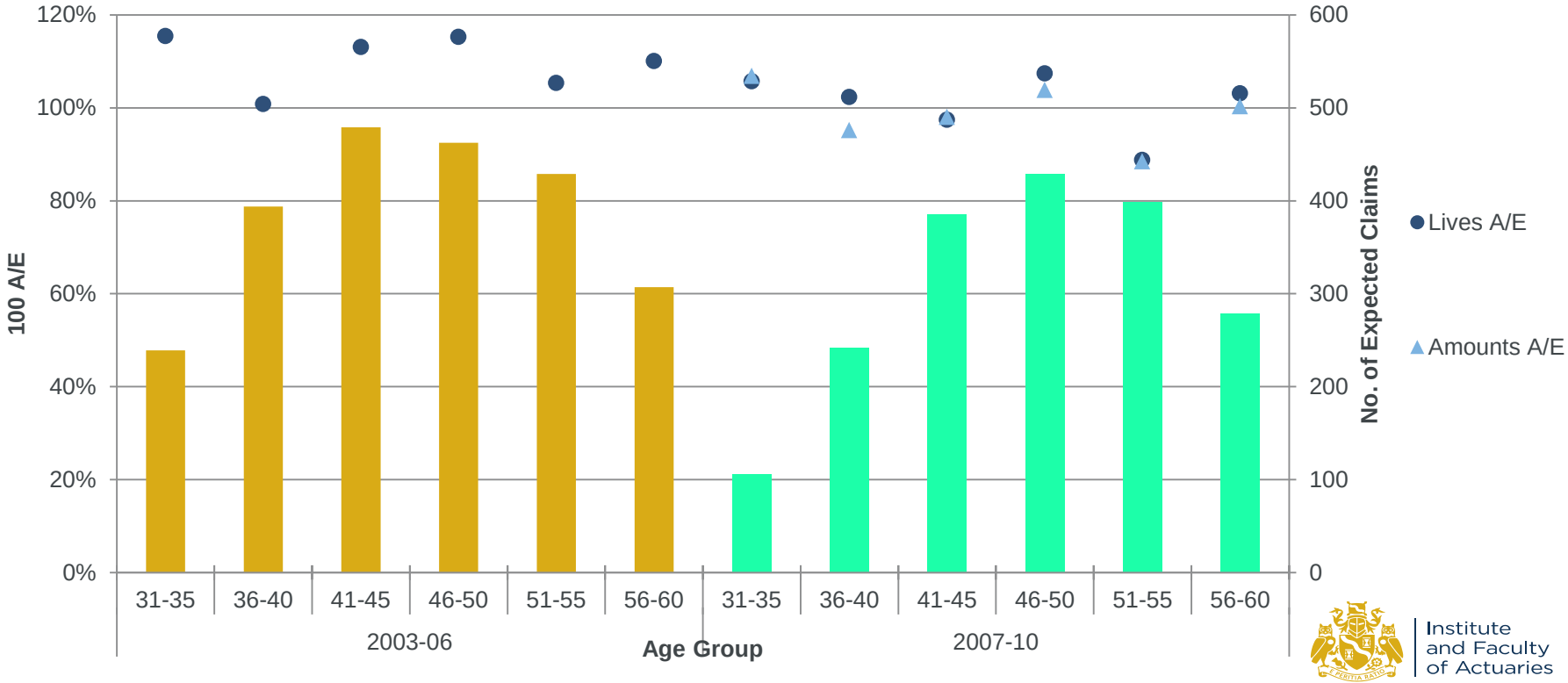
Draft SCI Results by Age



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Draft 07-10 CI results: recap

- Age-shape
- Durational-shape
- Investigating “Unknown” distribution channel
- Female amounts experience higher?
- Improving male trend by calendar year?
- Deterioration by commencement year?

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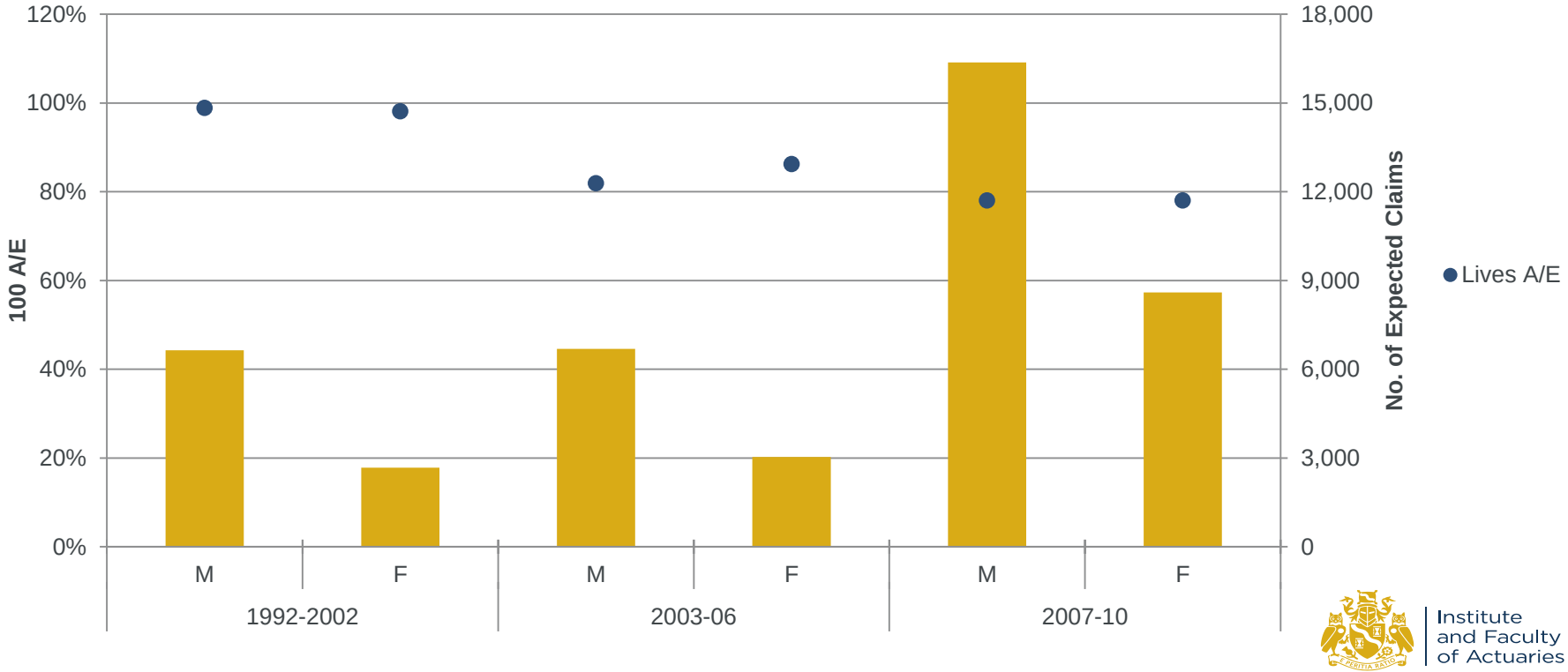
Draft Term Results



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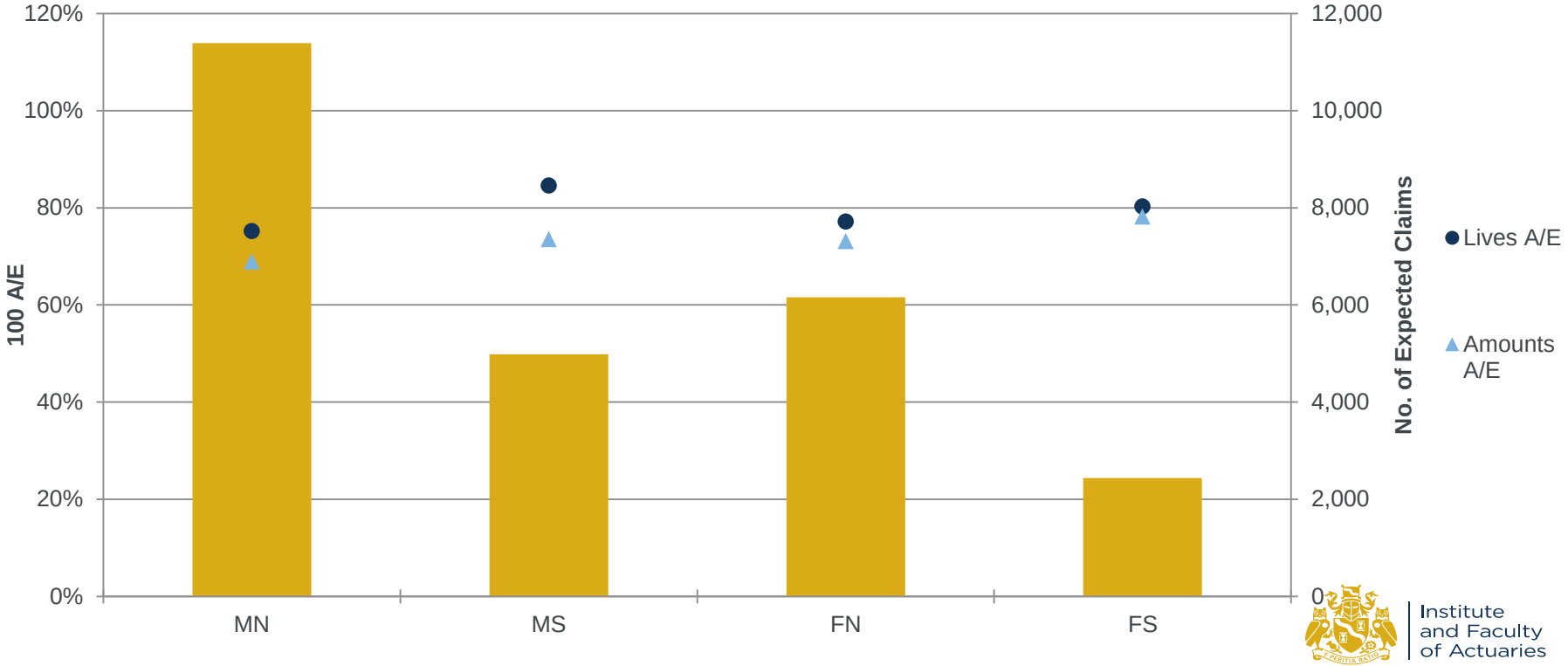
Draft Term Results: Lives vs. Amounts



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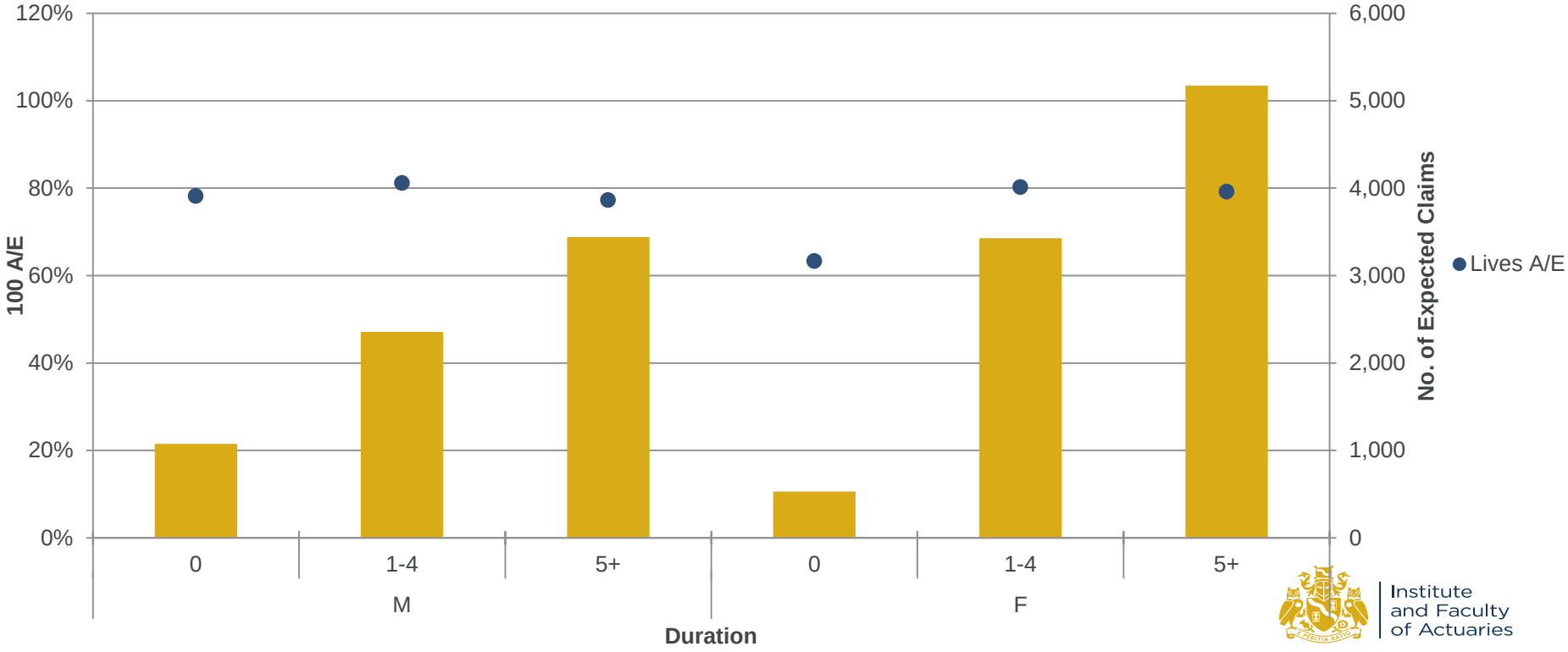
Draft Term Results by Duration



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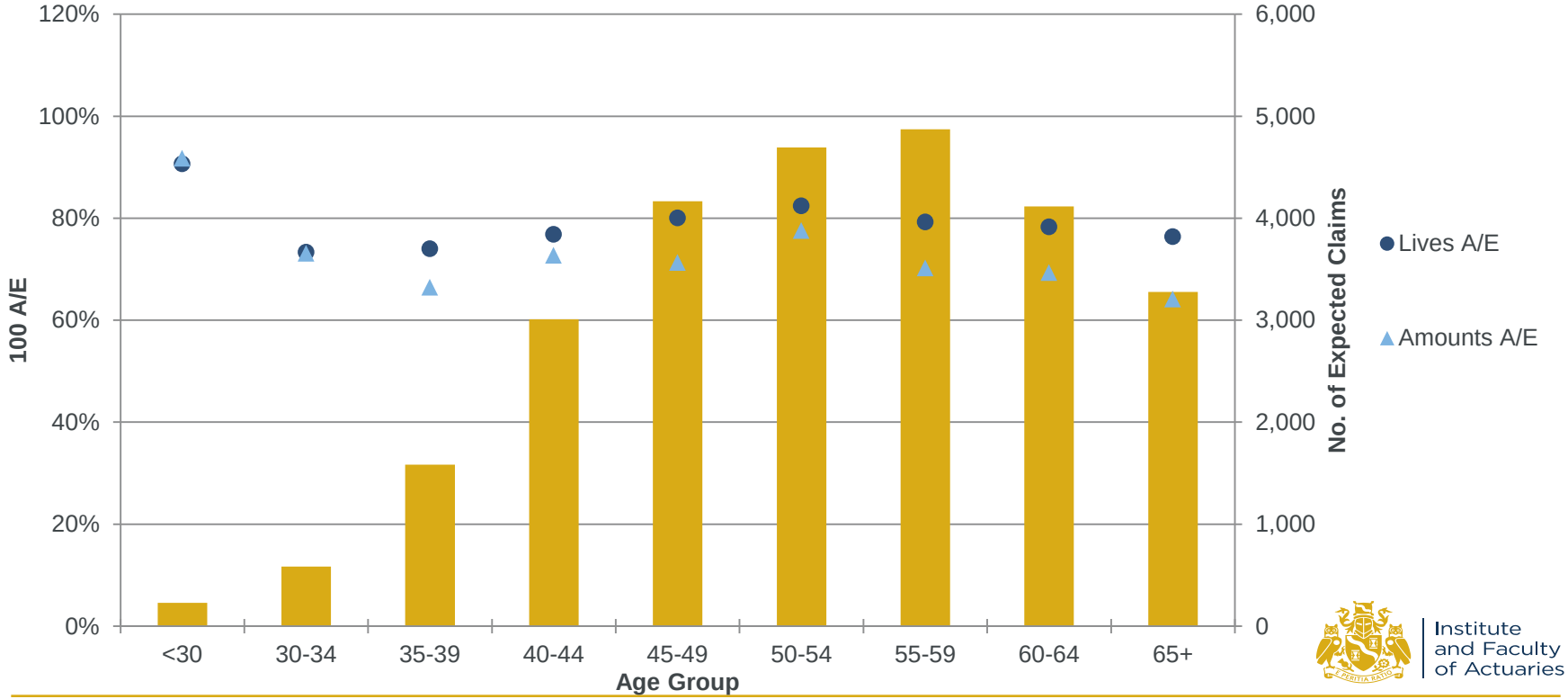
Draft Term Results by Age



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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 & 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, single/joint and commencement year.
- Accompanying Working Paper describing data, etc
- Produce results for 2011 – with IBNS estimate or wait for 2012 data?

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CMI Assurances – 2007-2010 graduations

- Mortality tables are older but Committee will review fit of 2007-2010 data to existing tables to assess priorities
- Issues to consider:
  - Graduate Term only or Term + Endowment + WoL?
  - Are Endowment and WoL data volumes sufficient to be credible?
  - Are stand-alone CI data volumes sufficient to be credible?
  - What factors should be reflected in graduations? (Traditionally: Gender, Smoker status, age and duration)
  - What methodology should we use for graduation?

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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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