Institute and Faculty of Actuaries

IFoA Life Conference

CMI_2024

Cobus Daneel (Chair of Mortality Projections Committee)

Changes in CMI_2024

Usual update to the calibration dataset – use data for 1984-2024

Changes to the calibration process:

- **Fitted overlay –** a more realistic model for the pandemic path of mortality
- **Multiple period terms –** a better model of different trends at different ages
- **Cohort constraints** – constrained after the APCOI model fit
- **Improved fitting algorithm**

Changes to projections:

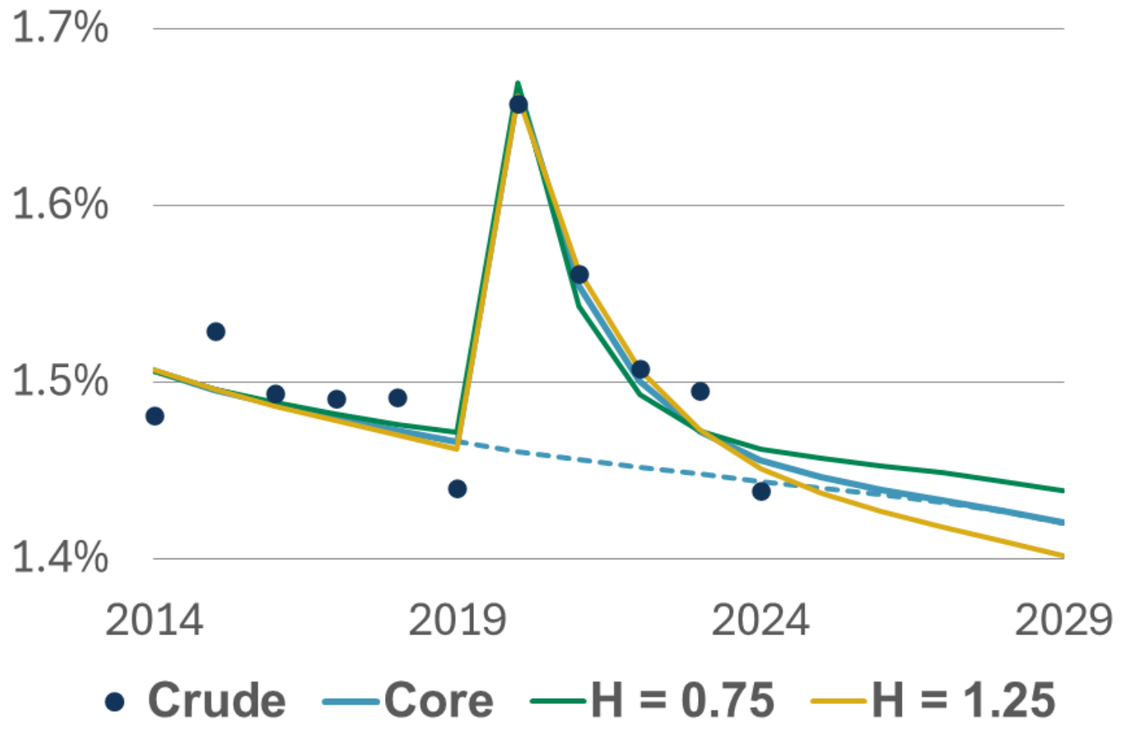
- **Cohort convergence periods** – shortened for ages 21-59

Other:

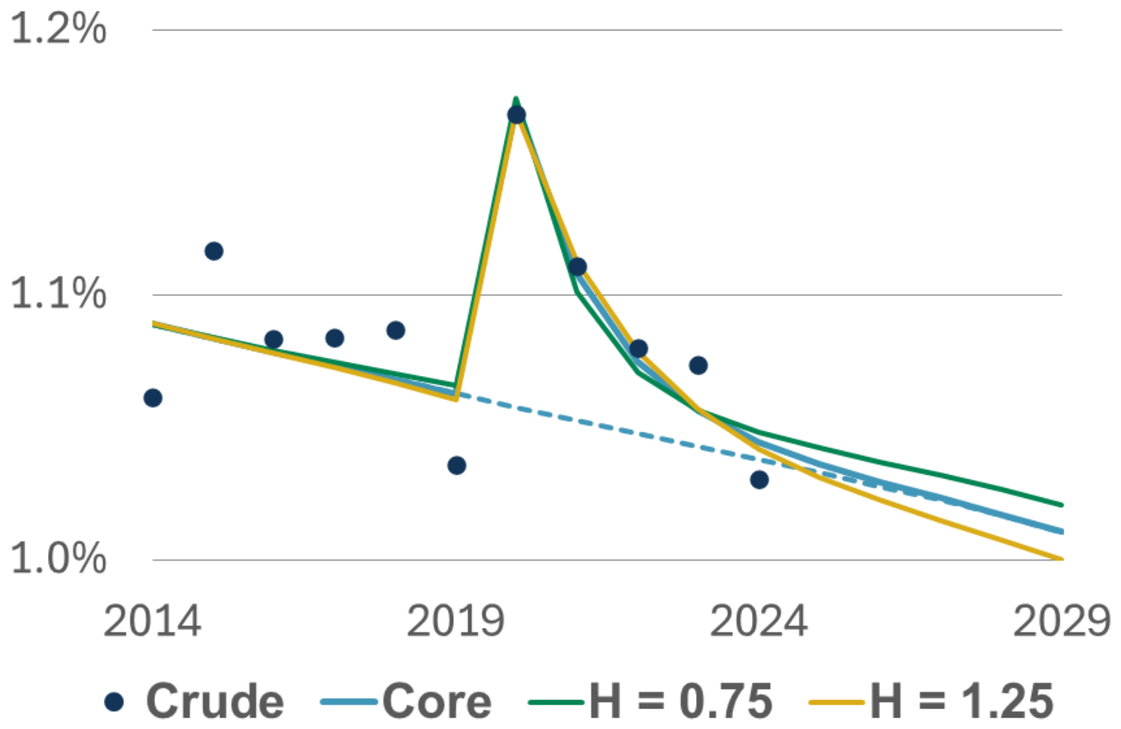
- **Period smoothing parameter (S_κ)** – now an Advanced parameter

CMI_2024 results, varying half-life

E&W males, ages 20-100

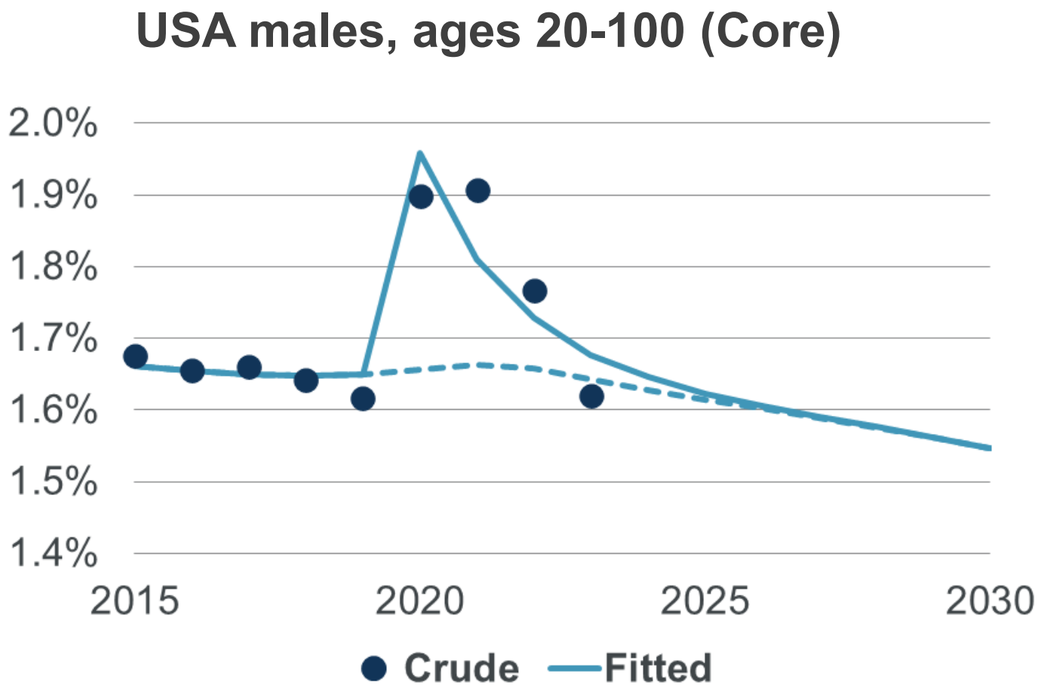


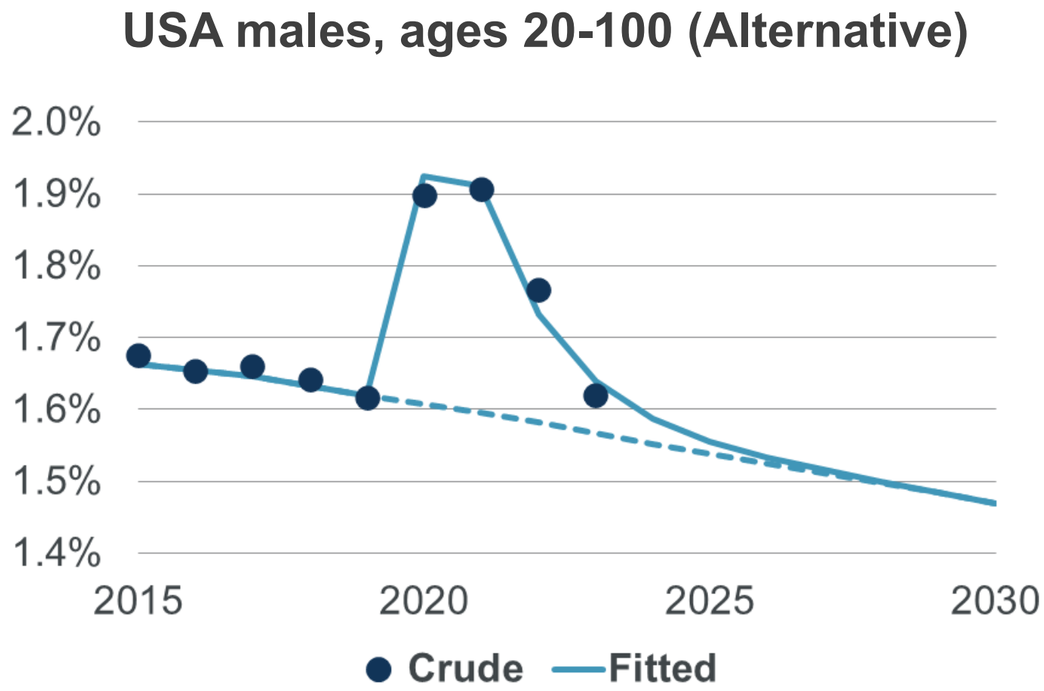
E&W females, ages 20-100



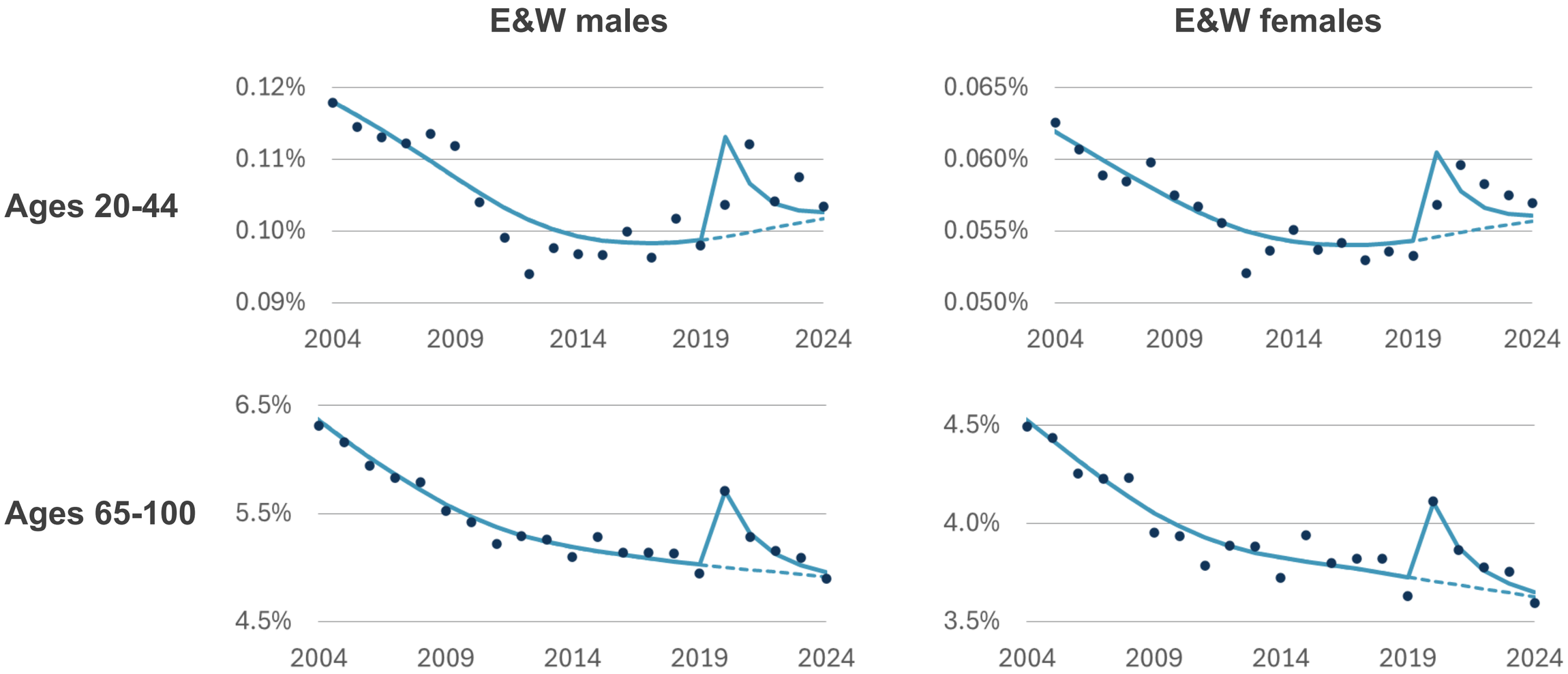
Flexible overlay – USA example

- Alternative run-off (2020=2021 overlay, then half-life of one year) seems to work better for USA males than CMI_2024 Core overlay shape





CMI_2024 results for younger and older ages



Benchmarking survey – insurer use of CMI_2024

- Fifth annual survey of insurer and reinsurer users of the CMI Model
- Responses from 24 insurers/reinsurers for 42 books of business
- CMI_2024 is the most popular version for end-2025 figures (18 of 42 books)
- But CMI_2023 is more popular than CMI_2024 when liability-weighted
- The majority of those using CMI_2024 expect to use Core parameters:
  - 14 using an overlay with a half-life of one year
  - 11 using five period terms

Q&A

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Thank you

For more information, contact:

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Cohort components of mortality improvements

- Cohorts constrained **within the APCOI model** (like CMI_2023), **after the APCOI** model (as in CMI_2024) and **structure-free** cohorts (four variants)