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Climate Risk and Insurance Affordability - An Actuaries Institute Lens

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Actuaries Institute resources on Climate & Sustainability

About the Climate and Sustainability Practice Area



SCAN ME

Public Policy Content Catalogue



SCAN ME

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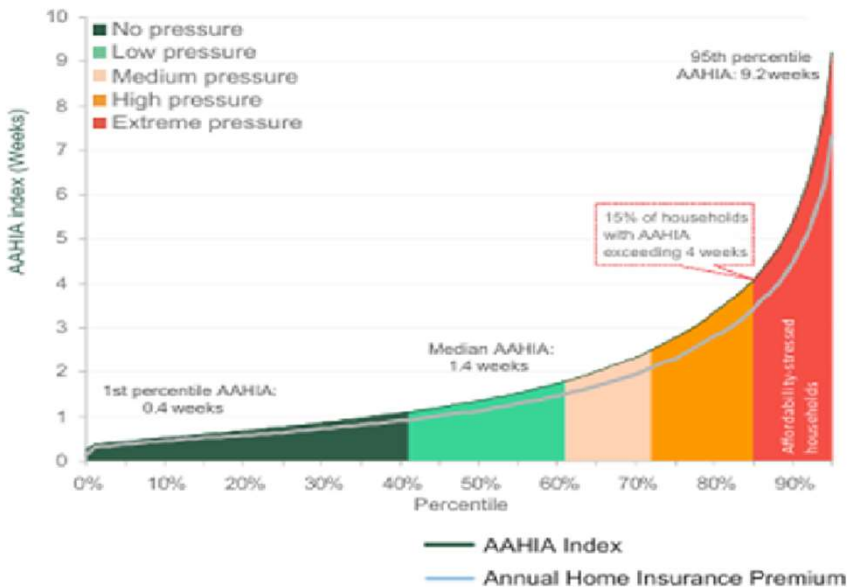
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Increasing the need for
adaptation and resilience



Home insurance as a future indicator

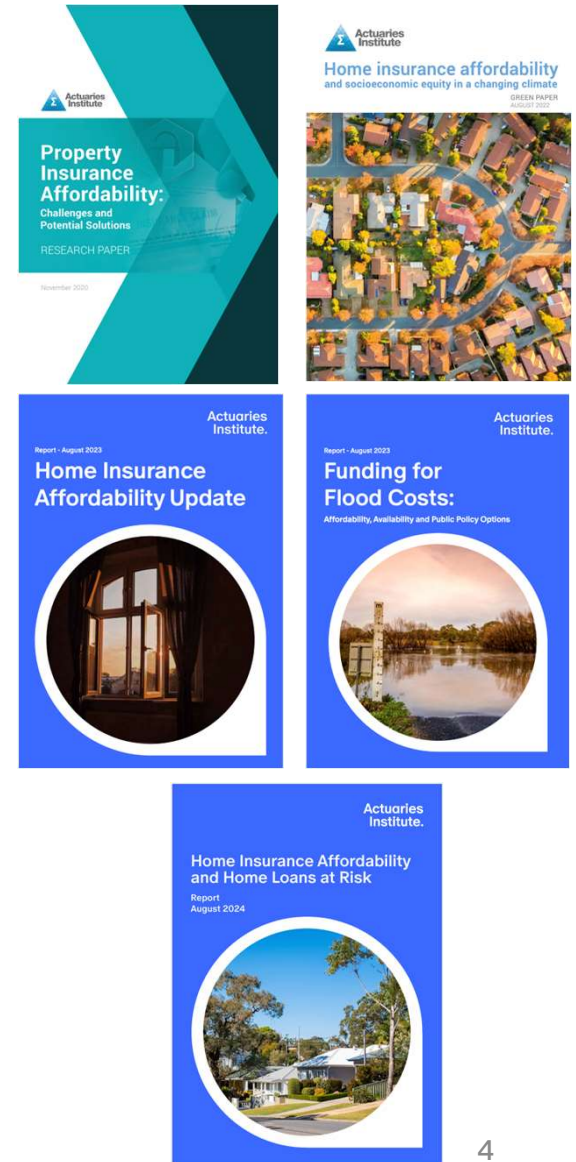
Figure 2.1 – Australian Actuaries Home Insurance Affordability Index by percentile¹



Broader financial services

Home loans at risk

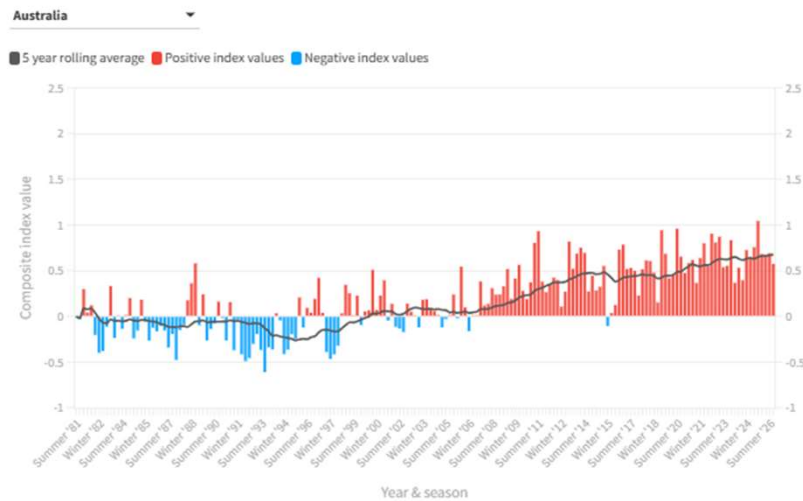
- 180 000 homes (5% of households)
- \$309k avg. loan
- \$57b loans outstanding (3% of mortgages)



Wellbeing

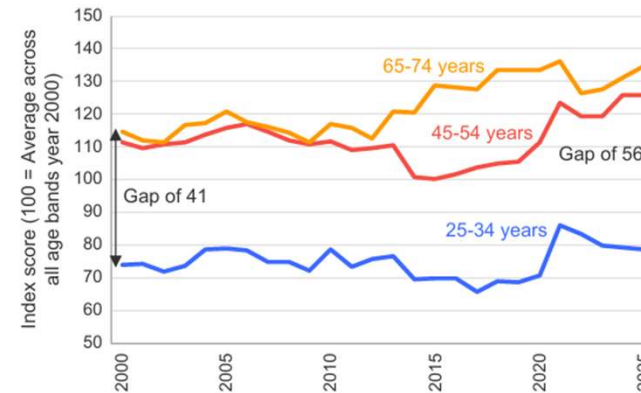
Increasing frequency of climate extremes

Australian Actuaries Climate Index: Composite Index

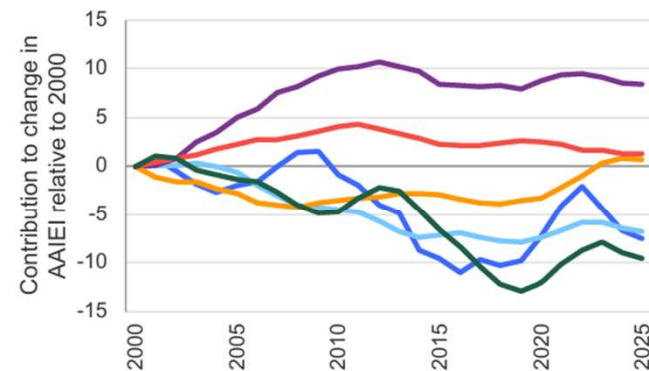


Contributing to intergenerational inequity

Figure 5: Absolute index scores for three age bands



Contribution to change in AAIEI gap



Economic Housing Health Social Education Environment

Note: Figure based on 25-34 age band vs. 65-74 age band. Right panel uses a three-year rolling average and is relative to 2000.

What's ahead, including through collaboration

- 1 ISAP 8 into Practice Guidance for Australian actuaries (about to be released)
- 2 Carbon Markets (locally and IAA)
- 3 Interpreting Catastrophe Modelling Outputs in Changing Climate Conditions (IAA)
- 4 Climate & Sustainability External Expert Reference Group
- 5 Ongoing engagement supporting the membership, including education and contributing to public policy



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The Expanding Actuary

- 1 Expanding our reach, building demand
- 2 The guidance of ISAP 8
- 3 Springboard to broader industry

As AI absorbs mechanical work, we expand our reach

What AI takes over



Routine calculation & modelling

Reserving mechanics, standard pricing runs, and routine data processing shift to AI tools — speed and cost make this inevitable, not optional.

Where actuaries go



Judgement under ambiguity

Novel risks, thin data, and model limitations — climate, cyber, longevity shocks — need professional judgement AI can't yet supply.



Accountability & assurance

Someone must own the number and stand behind it to regulators, boards, and the public — a role rooted in professional duty, not compute.



Advisory beyond the model

Translating outputs into strategy for boards and non-technical stakeholders — and into adjacent fields, as ISAP 8's climate work shows.

ISAP 8 – Areas of focus

The standard's principles are entity-agnostic — any organisation preparing IFRS S2 disclosures needs them, not just insurers and banks



ISAP 8 §2.5.3, 2.5.7

Climate scenario & resilience analysis

Design and stress-test transition/physical risk pathways — a core actuarial skill applicable to mining, agriculture, and infrastructure asset owners.



ISAP 8 §2.5.6

Quantifying financial impact

Translate climate exposure into balance sheet, cash flow, and earnings effects — directly transferable to manufacturers, property, and utilities.



ISAP 8 §2.5.9

Emissions metrics & targets

Assess measurement approaches and target-setting rigour for any entity now facing ISSB-aligned reporting, regardless of sector.



ISAP 8 §2.2, 2.3

Right-sized materiality & proportionality

Calibrate disclosure effort to resource constraints — a natural fit for mid-market and unlisted corporates new to climate reporting.

Read: as more industries face IFRS S2-aligned obligations (via lender, investor, or supply-chain pressure), the ISAP 8 skillset — not the insurance context — is the exportable asset.

Two Moves: Expand the Industries, Integrate the Expertise

Growth beyond Financial Services means both reaching new sectors and drawing on others' knowledge, exactly as ISAP 8 §2.4 envisages

STRATEGY 1

Expand across industry verticals



Mining & resources

Physical & transition risk on long-life assets and rehabilitation liabilities.



Manufacturing

Supply chain exposure, carbon cost pass-through, capex stranding risk.



Infrastructure & utilities

Asset resilience, network exposure, long-horizon investment planning.



Agriculture

Physical risk to yield, water security, land-use transition pathways.

STRATEGY 2 — ISAP 8 §2.4

Integrate external expertise & data



Other professionals' opinions

Engineers, climate scientists, and sector specialists supply domain knowledge the actuary doesn't hold alone (§2.4.1b).



Third-party data

Sector-specific datasets beyond the entity's own — the actuary assesses source criteria and reliability before relying on them (§2.4.1a, §2.4.2a).



External models

Climate science, energy systems, and macroeconomic models — with awareness of their assumptions, limitations, and market evolution (§2.4.1c, §2.4.2b–c).

Read: reach into new sectors is credible only if paired with disciplined reliance on the third-party expertise those sectors already have.

Q&A



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Thank you

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