Actuaries Institute.

2 July 2024

Select Committee on the Impact of Climate Risk on Insurance Premiums and Availability
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Parliament House

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Dear Committee Secretary,

Senate Inquiry into Impact of Climate Risk on Insurance Premiums and Availability

The Actuaries Institute ('the Institute') welcomes the opportunity to make a submission to this Inquiry.

The Institute is the peak professional body for actuaries in Australia. Our members work in a wide range of fields including insurance, superannuation and retirement incomes, banking, enterprise risk management, data analytics, climate change impacts and government services. The Institute has a longstanding commitment to contribute to public policy discussions where our members have relevant expertise. The comments made in this submission are guided by the Institute's 'Public Policy Principles' that any policy measures or changes should promote public wellbeing, consider potential impacts on equity, be evidenced-based and support effectively regulated systems.

General comments

Climate risk, and in particular the risk from a changing climate, is one the greatest challenges and opportunities for all countries. It requires individual countries to respond and an overall coordinated global response. While some of the risks of overall increased adverse weather conditions and events have begun to be realised, there is significant uncertainty over future decades about the full risks and impacts, partly because it depends on the global response.

Because insurance is a critical part of resilience – helping households, businesses, other organisations and governments better manage risk and protect against downside risks to their lives, livelihoods and assets – it is a critical enabler for economies to function well.

Climate risk impacts many lines of insurance. Home buildings and strata insurance have received extensive coverage both in Australia and in other countries[1] given recent experiences and is the focus of our responses to the specific Terms of Reference. However, climate risk also impacts other personal lines such as motor insurance (given the structural transformation of vehicle types and the different

[1] See, for example, the discussions of the US Senate Committee on the Budget which has been examining climate risk in a series of hearings over at least the last two years. An Australian actuarial perspective on the most recent US discussion is provided in this article.

claims cost profile of those vehicles), commercial lines of insurance (such as business continuity or interruption insurance, liability classes and workers compensation), and health and life insurance.[2]

Since 2018 the Institute has published, on a quarterly basis, the Australian Actuaries Climate Index (AACI). The Index is an objective measure of extreme weather conditions and changes to sea levels, designed to help policymakers and Australia's businesses assess how the frequency of weather extremes is changing over time. Unlike many other measures, the AACI focuses on changes in the extremes because this is a more relevant metric for the insurance industry (and some others) than averages as it correlates more closely with losses and damage to lives, livelihoods and assets. The index measures how often we observe weather conditions and sea levels exceeding the 99th percentile (the most extreme 1 per cent) of those during the reference period of 1981-2010. For the Summer 2023/24 season, that most recent available, the AACI recorded its 34th consecutive positive value, indicating the frequency of extreme weather has been at a higher level than the average for the Index's reference period for an extended period.

We highlight a potential significant protection gap which is beginning to be examined by some authorities.[3] Hazards such as storm surge/actions of the sea and flooding are likely to change in future due to the impact of climate change on east coast lows, extreme rainfall and/or sea levels. A very high proportion of the Australian population lives in coastal or flood exposed locations, but home buildings insurance policies do not generally include coverage for actions of the sea, including coastal erosion and inundation, and the secondary impacts triggered such as upstream riverine or estuarine flooding. We encourage greater examination of these risks and the options to improve adaptation and resilience.

We also highlight that a potential implication of increased insurance affordability pressure (i.e., deteriorating affordability) and availability is a change to the affordability and availability of finance. Lenders, as part their credit assessment for a potential borrower, may consider the insurance coverage the borrower has for any asset provided as security. We strongly support the work of APRA, the banks and insurers in the Climate Vulnerability Assessments to understand this risk, and that interlinkages between the separate banking and insurance sector CVAs will be considered.

We encourage the Committee to consider the extensive inquiry research that has already been undertaken, including in this Parliament, and the work that is in hand, including the National Climate Risk Assessment, development of the National Adaptation Plan, the Sustainable Finance Framework, APRA's Climate Vulnerability Assessment (mentioned above), the 2023 Intergenerational Report and the reports of the Climate Measurement Standards Initiative.

We also encourage the Committee to support the work of government in these areas to be holistic and integrated, to ensure that climate mitigation, adaptation and resilience actions are timely and cost effective.

Specific terms of reference

(a) the unaffordability of insurance in some regions due to climate-driven disasters and
(b) the unavailability of insurance for some people due to climate-driven disasters

The concepts of affordability and availability are heavily intertwined and, at some point, even if insurance is available (i.e., that is a quote can be obtained for the insurance coverage sought), it may not be practically available given the extreme affordability pressure it would impose on the potential

[2] The Actuaries Institute's Climate Change – Technical Paper for Appointed Actuaries provides a discussion of these impacts, and according to the three different types of risk – physical risk, transition risk and liability risk.
[3] For example, the NSW State Disaster Mitigation Plan, 2024, pp. 40-43. Further Institute commentary on this issue is in its submission to the National Adaptation Plan Issues Paper.

policyholder. In other instances, insurance may not be available as no insurer is willing to take on that new business.

In the Institute's extensive research on the topic of home insurance affordability, we have defined degrees of affordability stress based on how many weeks of income it would take a household to pay an annual insurance premium. This is presented as the Australian Actuaries Home Insurance Affordability Index (AAHIA). For households for which it takes four weeks or more of household income to pay the premium, we have defined those households as experiencing extreme affordability pressure. At this threshold, we consider insurance to represent a significant financial burden.[4] It is important to note that our measure of affordability is based on gross (before tax) income; even though insurance is an after-tax expense for households, net income has not been available at a sufficiently granular level.

The Institute's research indicates that as at end March 2022, 10% of households (or 1 in 10 households) were experiencing extreme insurance affordability pressure, and as at end March 2023 this had risen to 12% of households (or nearly 1 in 8 households). As important, the research indicates that insurance is more affordable for the vast majority of households – 88% as at the end March 2023. Figures for end of March 2024 are expected to be published later this year.

The estimated home insurance premium for the 12% of Australian households which faced extreme affordability stress as at the end of March 2023 was $3.6 billion, if these households had taken out full insurance. However, due to the affordability pressures many either underinsure or do not take out insurance. This represents a potentially significant protection gap for society in the context of the total home buildings and content insurance market (including taxes) actually being taken out was $14.8 billion at March 2023 (APRA, 2023).[5]

In terms of geographic distribution of affordability pressure due to climate driven disasters (i.e., natural perils risk), as at the end of March 2023:

- Extreme affordability pressure was evident in all Local Government Areas (LGAs), albeit to differing extents.
- The LGAs with the most concentrated extreme home insurance affordability pressures were in Northern QLD, the Northern Rivers region of NSW and Northern WA. In these areas, half of the population paid more than a month of gross household income for their annual home insurance premium. The affordability pressures faced in these regions were driven by their high perils risk (cyclone for QLD and WA and flood for NSW) and may have also reflected insurer actions to recoup high losses in recent years from natural peril events in these regions.[6]
- Metropolitan areas typically have lower natural hazard risks and higher incomes, both of which determine insurance affordability. This means that the capital cities have lower affordability pressures on average. However, affordability pressure was still present within parts of the capital cities of Greater Sydney, Greater Melbourne and Greater Perth, particularly on the edges of the city extents (and predominantly due to bushfire and/or flood risk).

A notable development since the end of March 2023 has been the further phased introduction of the Government-backed Cyclone Reinsurance Pool. The Pool was designed to reduce the overall cost

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[4] This threshold was informed by several factors and as outlined in Home insurance affordability and socioeconomic equity in a changing climate, p.19, s.3.2, Actuaries Institute Green Paper 2022.
[5] APRA Quarterly General Insurance Performance Statistics March 2023, adjusted for Tax.
[6] Further details on the distribution of affordability pressure, including by degrees other than extreme pressure, are provided in s.4.1. of Home Insurance Affordability Update, Actuaries Institute Report 2023.

of cyclone reinsurance to the industry, with the removal of reinsurance and insurance margins across the market translating into savings for medium- and high-risk properties through a cross-subsidy mechanism (from the margins of low-risk customers). It commenced 1 July 2022, and covers cyclone and related flood damage.

Because very few insurers had joined the Pool as at the end of March 2023, the AAHIA Index at that time did not include any effect from the operation of the Pool. This was done because the Index is intended to provide an objective measure of actual affordability pressure faced by households.

(c) the underlying causes and impacts of increases in insurance premiums

Insurance premiums reflect many factors, including:

- estimates of the risk and cost of a claim being made, which are informed by estimates of the natural perils risk to a property, the building's resilience (or vulnerability) to those natural perils, and other risks (attritional losses) which include theft and accidental damage; and
- an allowance for an insurer's costs of operating, which include reinsurance, claims management processes, other overheads, and a profit margin which provides a return to shareholders/equity holders for the use of their capital.

With the increased availability of data, including through satellites and improved natural perils mapping, natural perils risk has increasingly been able to be calculated at the level of a specific address. This has contributed to increased affordability pressures being experienced by some households as the cross-subsidy which previously existed, because risk was assessed and priced across a larger pool of households (e.g., at a postcode level), has been reduced or removed.

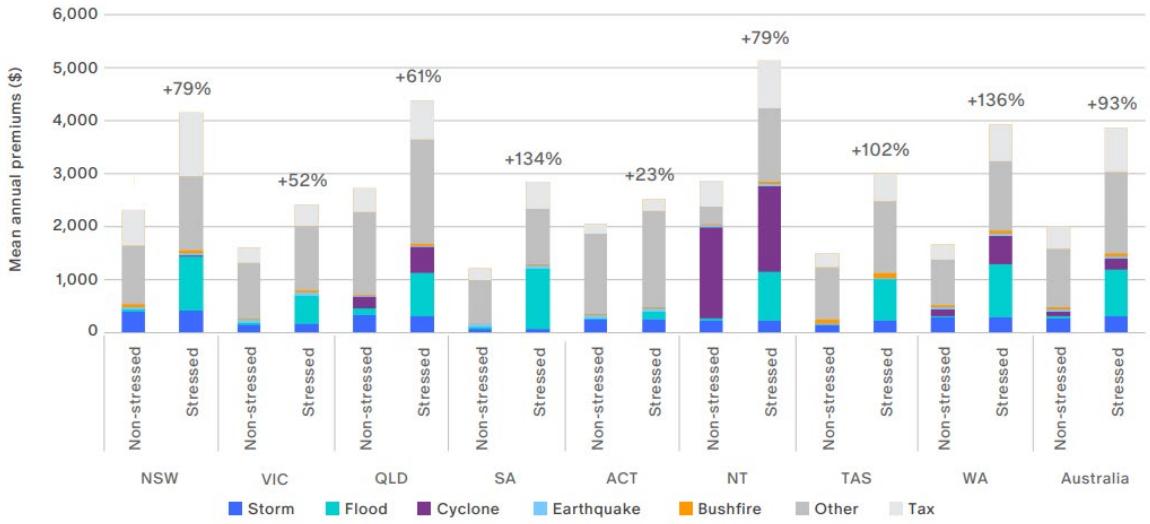
As noted in the 2023 Home Insurance Affordability Update Report:

- of the 28% annual increase in the median (50th percentile or middle household) premium, half of this (14 percentage points) was due to sum insured inflation (largely reflecting higher building material and labour costs), 1 percentage point was due to change in the natural perils risk modelling, and the remaining 12 percentage points was due to other insurer costs, including reinsurance costs;[7]
- of the 46% annual increase in the mean (average) premium, 14 percentage points was due to sum insured inflation, 9 percentage points to higher natural perils risk modelling, and 22 percentage points to other insurer costs, including reinsurance costs.[8] The greater increase in the mean (average) premium than the median (50th percentile) premium reflects the greater premium experienced for households facing relatively high natural perils risk; and
- reinsurers have failed to earn their cost of capital for a number of years – for five years out of the last seven years to 2023 largely due to severe events causing higher than expected losses.[9] While reinsurers can absorb short-term losses, they need to seek sustainable pricing over a longer horizon. Reinsurers have responded accordingly by increasing reinsurance prices significantly and reducing available capacity in 2022 and 2023. While insurers have restructured their catastrophe programs, the net outcome is an increase in the net cost of reinsurance, which is passed on to policyholders.

[7] These items do not add to 28% due to rounding.
[8] These items do not add to 46% due to rounding.
[9] Pricing Momentum Is Helping Reinsurers Turn The Corner | S&P Global Ratings (spglobal.com) and January 1, 2024 Reinsurance Renewals Reflect a Motivated Market with Increasing Capital (guycarp.com)

The contribution of natural perils risk to insurance premiums by State, and split between households experiencing extreme affordability pressure and those which are not, is shown in Figure 4.3 of the Institute's 2023 Report and repeated below.

Figure 4.3 – Total home insurance premiums by state, split by affordability stress



Note that in Figure 4.3 'Other' includes attritional losses and an allowance for an insurer's costs of operating (including net cost of reinsurance, expenses, and a profit margin).

There are a few points to note from Figure 4.3 above:

- The State with the highest mean (average) premium for households experiencing extreme affordability stress was the NT, with the contribution for natural perils risk being 55% of total premium, and largely due to cyclone and flood risk. While NT had the highest mean premium, it also had relatively high household income which moderated the degree of insurance affordability pressure across the Territory.
- The State with the next highest mean premium for households experiencing extreme affordability stress was QLD, with flood and then cyclone risk contributing most to premiums. In WA flood and cyclone risk made material contributions and in NSW flood made the most material contribution.

(d) the extent to which increased climate risk is being priced into insurance products not exposed to climate-driven risks

It is not possible to estimate with high confidence the expected overall increased risk of climate change, and furthermore how that precisely translates to the cost of climate change, for property insurance in any given geographic area in a given single year.

- The impacts of climate change are expected to unfold over decades, while most property insurance policies are for one year duration. Climate effects are therefore expected to emerge over time in insurance premiums because current premiums do not generally reflect future risk beyond the current policy period.
- Cyclical shorter-term weather patterns, such as the El Niño-Southern Oscillation, Indian Ocean Dipole and Southern Annular Mode, also impact insurance losses and contribute to the inherent variability of insurance losses from natural disasters from year to year. Attribution of losses to shorter-term weather patterns compared with climate change is complex and uncertain and a rapidly evolving area of research.

- While there is high confidence that overall, across Australia, climate change is expected to materially increase the risk of extreme weather events, the impacts will vary across the nation and by different types of perils. There is significant uncertainty about the behaviour of weather-related extreme events as we consider projections or scenarios for more granular locations.
- The cost of climate driven risks depends not only on how the natural perils risk changes but also on the complex interaction that has with the resilience of the buildings impacted (influenced by building codes, building quality and land use planning rules), and how exposure changes (i.e., the value of the buildings in an area, due to, for example, growing population and lifestyle choices).
- There is also the interaction with reinsurance costs, which is subject to cycles of supply and demand of capital. Those cycles are a key driver of reinsurance pricing in the short term.
- Climate science indicates that as the climate changes, compounding events are more likely with the total cost much greater than the sum of its parts. For example, drought and hot spells affect agriculture, increase bushfire risk and reduce labour productivity all at once. There is significant uncertainty in understanding and modelling compounding events, and this is another rapidly evolving area of research.

(e) the distributional impact of increases in insurance premiums across communities, demographics and regions

Notwithstanding the uncertainties and limitations noted in response to (d) above, the Institute commissioned modelling of alternative scenarios of climate change on home insurance affordability in order to understand possible magnitudes of impact and distribution across the population. The modelling, as part of the 2022 Home Insurance Affordability Green Paper, shows the impact is likely to fall disproportionately on those households which are already experiencing affordability stress.[10]

Under a scenario where global warming remains below 2°C by 2050 and all other factors remain constant, the median Australian Actuaries Home Insurance Affordability Index in 2050 was projected to increase by 7.6 days (14 per cent) for households already experiencing extreme affordability pressure, compared with 0.2 days for all other households. Under a scenario with continued high emissions where global temperatures rise by approximately 3°C by 2100, the median AAHIA in 2050 was projected to increase by 10.7 days (20 per cent) for households already experiencing extreme affordability pressure, compared with 0.4 days for all other households.

While these figures are concerning in themselves, it is important to note that they still represent average impacts; that is, approximately half of the households already experiencing extreme affordability pressure will experience even worse deterioration in home insurance premium affordability. Further, since these figures represent only the change in home insurance premiums, they do not include other exacerbating factors that may also arise from climate change.

Under these scenarios, Northern Queensland will face the highest median AAHIA increases, but other regions in Northern Australia and Central NSW will also see significant home insurance affordability pressure.

(f) the role of governments to implement climate adaptation and resilience measures to reduce risks and the cost of insurance

A suite of solutions, and involving collaboration across multiple stakeholders, is critical to implementing climate adaptation and resilience measures. Governments have particularly critical roles in designing polices and measures that are holistic and integrated to ensure that actions are timely and cost

[10] Refer in particular to s.5. of the 2022 Green Paper.

effective, and that include recognition of the interlinked nature of socioeconomic inequality and insurance affordability. As noted in research by the Institute, households already experiencing insurance unaffordability are more likely to be older, renting, in lower socio-economic areas and have less savings.[11]

Examples of climate adaptation and resilience measures the Institute strongly supports are:

- Strengthening and future-proofing of both building codes and land use planning rules to consider the multi-decade lifespan of building structures and uncertainty of climate change scenarios while also continuing measures to increase the supply of resilient and affordable homes.
- Building codes should extend to re-building, so that we are building back better.
- Supporting an equitable transition. The Institute recognises that while the combination of improved land use planning and building codes and the availability of data will help uplift future adaptation and resilience, there may be adverse implications for existing structures and land uses, or the supply of new homes, which should be carefully considered to ensure adaptation is inclusive and equitable. This can include for consumers who did not know of an emerging risk at the time that they purchased their home and, partly due to advances in technology and more granular pricing, now face significant insurance affordability pressure or availability issues. In this instance, and in limited situations, a government subsidy on insurance could be considered. The subsidy could be managed with the aim of unwinding it over time as the underlying risk is reduced through, for example, community and/or household level mitigation and adaptation investments. Crucially, the Institute would support subsidies to be limited to existing properties only so that further development is not encouraged in high-risk areas. If required, and likely in very limited circumstances given the very significant resources involved, governments have a critical role in supported relocations.
- Supporting improved publicly available data to enable climate risk assessment at all levels of society, and support climate risk management including risk reduction.
    - The Institute strongly supports the intent of the Hazards Insurance Partnership initiative, and the underpinning of free publicly available data to all households, businesses and individuals of the climate risk that they are now facing and may be expected to face in the future. There is an appropriate government role to fund national data collection and distribution on a public database.
    - We also strongly support the National Climate Risk Assessment initiative to help all stakeholders better understand climate risks and to facilitate stronger collaboration and coordination from that shared understanding.
- Substantially uplifting the public sector investment required, including through public and private sector partnerships, in (greenhouse gas) mitigation investment and especially adaptation and resilience investment. We note the work underway through the Disaster Ready Fund and the Hazards Insurance Partnership. We note that globally adaptation and resilience finance significantly lags investment in mitigation and falls short of the amount needed to close the 'adaptation finance gap'.[12] The Institute encourages the Government to consider alternative frameworks[13] that account for these challenges and provide public support for research and collaboration around the development of robust and transparent frameworks for long-term decision making on adaptation and resilience. We need to regularly review the success of adaptation and resilience and transition measures and stay agile.

[11] MediaReleaseHousingInsuranceAffordability.pdf (actuaries.asn.au)
[12] See UNEP Adaptation Gap Report 2023: Underfinanced. Underprepared. Inadequate investment and planning on climate adaptation leaves world exposed
[13] Refer Institute submission to the National Adaptation Plan issues Paper for an extensive review of these.

Amongst these measures we also encourage the taxonomy for sustainable finance to include adaptation and resilience finance, alongside mitigation finance, such that there is an integrated and holistic approach.

- The further evolution of the Your Future, Your Super performance test to ensure the test does not hinder investment by superannuation funds in decarbonisation and the transition to net zero, so long as these investments are in the best financial interests of fund members.
- Supporting entities in their climate and sustainability disclosures by providing examples of best practice disclosures, providing or endorsing simplified and scenario modelling tools, guidance and templates.

(g) how the pricing of risk from climate-driven disasters can be better redistributed across the economy

There are several ways in which the impact of climate driven risks could be further redistributed across the economy beyond what already occurs through the Cyclone Reinsurance Pool and by any initiatives insurers themselves may be undertaking. To ensure such interventions would be sustainable (financially and socially), they should have tightly targeted eligibility and only be considered alongside measures that, in the longer-term, reduce the underlying risk.

Potential interventions to redistribute the pricing of risk from climate-driven disasters include:

- Introduce full or partial community rating, likely accompanied by a risk equalisation mechanism. Full community rating would involve all policyholders paying the same price for the same sum insured irrespective of their property's risk. Partial community rating would apply the same price principle only to a specific group of policyholders, for example those with properties facing the highest risk or, if means tested, to those households which are most affordability stressed. Risk equalisation is a mechanism that equalises the risk profile of insurers and typically sits alongside community rating, such as occurs in private health insurance and also in some Compulsory Third Party motor insurance schemes. Community rating and risk equalisation generally involve regulatory oversight and delivery through private insurers.
- Introduce additional subsidies. This could be additional direct subsidies for household and community level mitigation and adaptation investments (paid for by governments and/or other stakeholders such as insurers and lenders which are financing the asset), a more extensive government backed reinsurance pool to include other natural perils, and/or a government backed insurer.

Almost every intervention to address affordability and availability for some subsets of the population today will involve some redistribution of cost across space (e.g., by geography and/or subgroup of the population) and time (e.g. by generation through the timing of expenditure as investments, subsidies and/or provision of capital, borrowing costs and implications for taxation). Policymakers should seek to identify and implement the mix of methods that yield the greatest long-term benefit relative to their cost and level of disruption, and which consider the impact on intergenerational equity, coupled with action supporting risk reduction and adaptation (e.g., avoiding maladaptation, such as avoiding building new homes in areas with high flood risk). Whatever mechanisms are established, it is important that risk signals in pricing are not lost, and that these continue to drive well targeted investments in climate change mitigation, adaptation and resilience.

More extensive discussions of options are provided in the Institute's Research Paper on Property Insurance Affordability: Challenges and Potential Solutions, the 2022 Green Paper and the 2023 Funding for Flood Costs: Affordability, Availability and Public Policy Options Report.

(h) any other related matters.

The Institute supports initiatives to reduce or remove insurance taxes, such as emergency services levies and stamp duty on home insurance, and replacement with more equitable sources of revenue collection. These taxes are inefficient and exacerbate insurance affordability problems, and may be impacting the level of underinsurance. Removing these taxes alone will not address the points raised in the Terms of Reference for this inquiry, however they will support the other responses.

The Institute would be willing to discuss this submission further. If that would be of assistance, please contact the Institute via (02) 9239 6100 or executive@actuaries.asn.au.

Yours sincerely

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