RESERVE BANK
OF NEW ZEALAND
TE PŪTEA MATUA

Further review of how insurers assess their exposure to catastrophe risk

Executive summary

The Reserve Bank has completed a further review on how licensed insurers assess their exposure to catastrophe risk. Results from the review indicate that there are areas of weakness in eleven of the twenty-eight insurers that were surveyed. The other seventeen insurers appear to be assessing their catastrophe risks appropriately for their own particular circumstances. However, this does not preclude them from making further improvements to their assessment processes.

- The Reserve Bank intends to engage with all twenty-eight insurers surveyed to provide targeted feedback and also make improvements to the way in which they assess catastrophe risk exposure *where* appropriate.

Initial survey in 2016

In 2016 the Reserve Bank carried out a survey on how licensed insurers assessed their exposure to catastrophe risk. This was followed by the publication of a report containing the findings and better practices that were identified during the survey[1]. Individual written feedback was also provided to those insurers that were identified as having specific weaknesses in their assessment of catastrophe risk. The Reserve Bank's expectation was that insurers would consider the general feedback in the published report to the extent it is relevant to their own circumstance and the specific individual feedback where this was provided, and make changes to improve the way they assess their catastrophe risk.

Follow-up survey provided more detailed insights

The Reserve Bank carried out a follow-up survey on twenty eight insurers in early 2020 using the same methodology employed in 2016. Insurers were asked to provide information on their catastrophe risks in respect of governance, processes for assessment of risks, any modelling undertaken, the controls to limit exposures, and mitigation to reduce the effects of catastrophes. This has allowed us to better understand how insurers are prudently managing their catastrophe exposures, and to monitor changes since the 2016 survey. The increased level of detail in the insurers' survey responses and the supporting board papers have provided additional insights into how insurers are assessing their catastrophe exposure.

Areas of weakness remain, particularly around aspects of modelling and formal policies

Responses to the follow-up survey indicated that areas of weakness are present in over a third of the insurers. It was not clear whether some property insurers had considered the latest earthquake models available. And if they had, whether they had made changes to the way they model these risks as required, for example by adopting one of the newer models or further refining their existing modelling. Additionally, some non-property insurers did not have formal policies covering catastrophe risk. These and other specific areas of concern are considered in more detail later on in this note.

1 RBNZ report on insurer catastrophe risk survey 2016

The remaining insurers which make up about 60% of the sample, appeared to be assessing their catastrophe risks appropriately for their own circumstances. However, this does not preclude them from making further improvements to their assessment processes.

The way insurers assess their exposure to catastrophe risk has deteriorated at more insurers

The approach to assessing catastrophe risk has deteriorated for six insurers, three have shown improvement, whilst the rest remain unchanged from 2016. The six insurers which showed deteriorations are property insurers, whilst the three that have shown improvements are non-property insurers.

The potential size of any catastrophe claims, and therefore their significance varies from insurer to insurer. The significance can be substantial for property insurers, and negligible for some health insurers. This is the reason the deteriorations outweighs the improvements.

The graphs below shows the comparative position of insurers assessed in 2016 and their corresponding position in 2020[2]. These positions were worked out by allocating a grade of poor (=1), neutral (=2) or good (=3) to reflect our view of how each insurer assessed their exposure to catastrophe risk. This was based on the response they provided within their survey. The insurers have been divided into three groups based on their original scores from the 2016 survey.

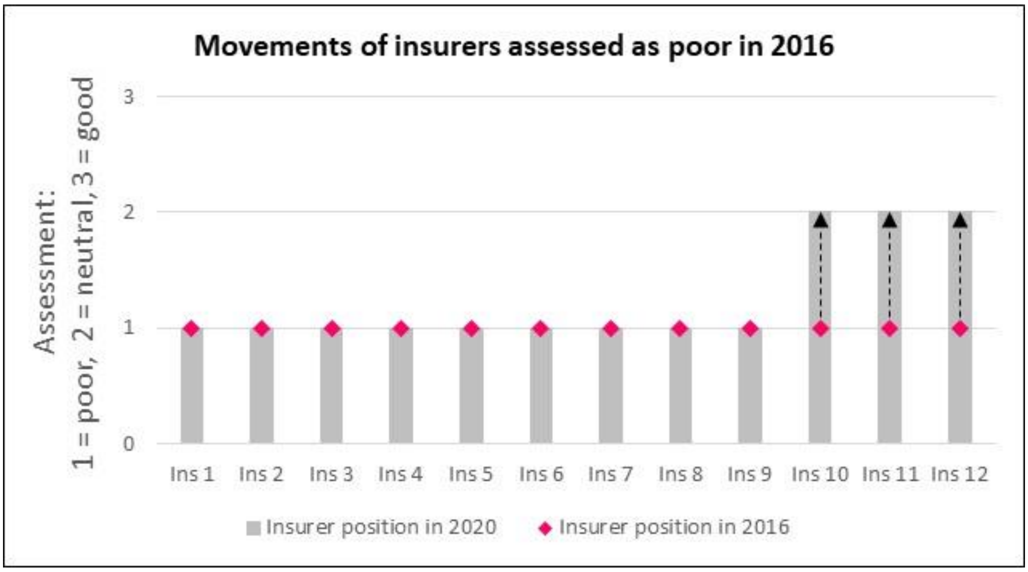

Fig 1: Comparative positions of insurers classed as poor in the 2016 survey.

2 The two new insurers are not included in the graphs as they did not have corresponding data from 2016.

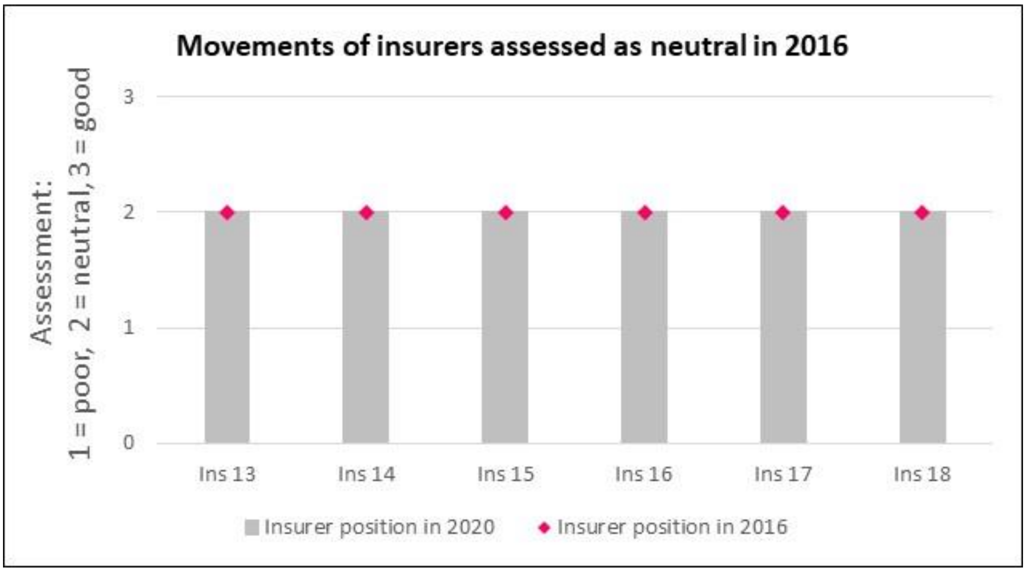

Fig 2: Comparative positions of insurers classed as neutral in the 2016 survey.

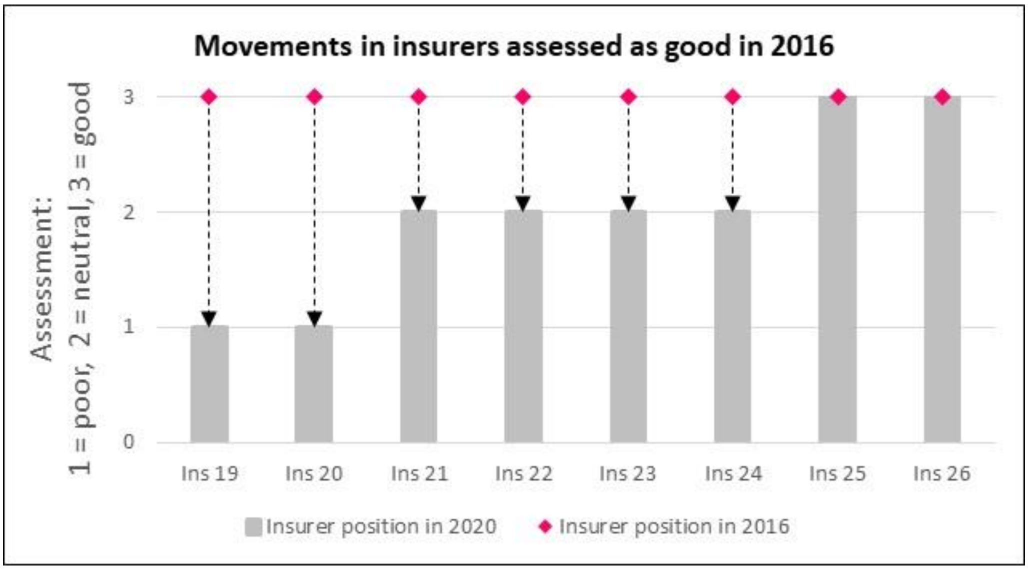

Fig 3: Comparative positions of insurers classed as good in the 2016 survey.

Specific areas of concern were identified during the survey

- *It was not clear if property insurers have had regard to more recent catastrophe models*

At the time of the survey, only two out of the ten largest property insurers in the survey sample had provided evidence to show that they are using the more recent earthquake models that incorporate the learnings from the 2010-11 Canterbury earthquakes (CEQ).

Although the non-life solvency standard3 does not prescribe the use of a particular model, we were keen to understand whether property insurers had considered the latest catastrophe models available in the market, and either adopted them or have valid reasons for continuing with their old models with

3 Solvency Standard for Non-life Insurance Business 2014 (incorporating amendments to November 2018)

suitable post-model adjustments. We also expected any adjustments to be reviewed on an ongoing basis to ensure they remained appropriate.

The graph below summarises the different approaches to modelling earthquake risk the ten largest property insurers have stated that they employ. This information is based solely on their survey responses. Of the five insurers that said that they make post-model adjustments to allow for the learnings from CEQ, three have indicated that they have plans in place to move to the more recent earthquake models over the next year.

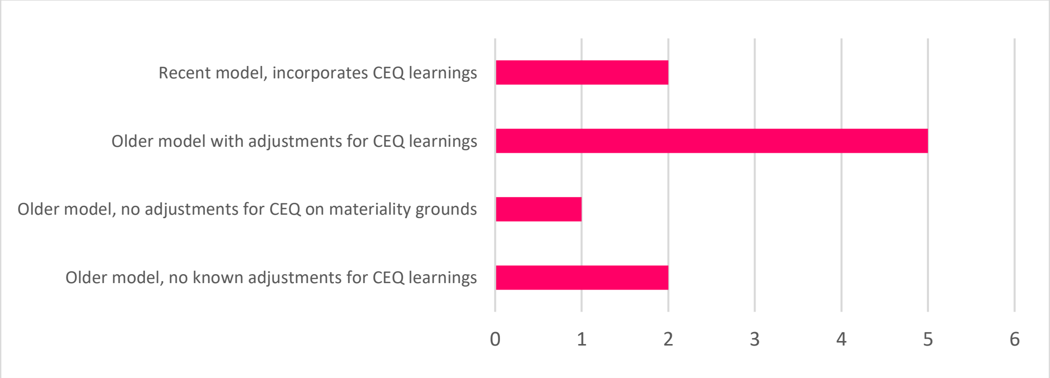

Fig 4: The largest property insurers' stated modelling approaches to earthquake risk

- *There was limited use of formal policies covering catastrophe risk*

Nine insurers surveyed did not have specific formal policies in place that covered catastrophe risk. For some insurers this was because they had assessed their exposure to be low. Better practice is to have a specific policy for catastrophe risk as this ensures there is visibility of the risks for distinct consideration and periodic review.

Even in instances where there was no current catastrophe risk exposure for the insurer, having a process in place for regularly reviewing this position should be established given that exposures can change over time.

- *Some specific areas of concern from 2016 had not been addressed*

Four of the insurers identified as having specific weaknesses in the 2016 survey have not shown any material improvements in any of the assessed areas. This is of particular concern for the two which are property insurers as they are more likely to have significant catastrophe risk exposure.

- *Assessment of pandemic risk where relevant remains anchored to solvency standards*

Life and health insurers where applicable, continue to consider pandemic risks as part of their assessments. However, these assessments continue to be limited to the additional mortality arising from a one per thousand increase in the rate of lives insured dying over the following year as prescribed in the life solvency standard[4].

4 Solvency Standard for Life Insurance Business 2014 (incorporating amendments to November 2018)

Expectations of insurers and specific feedback

We expect all insurers to consider both this note and the more detailed feedback and better practices noted in our 2016 public report[5]. These documents provide a mechanism for insurers to self-assess their own processes for assessing catastrophe risk and proactively refine them as appropriate.

The Reserve Bank will also write directly to all insurers surveyed to provide more detailed and targeted feedback, including our supervisory expectations in this regard. We will also work with the insurers that have been identified as having new or continuing areas of specific weakness to make improvements to the way in which they assess catastrophe risk.

In conclusion, COVID-19 has shown that risk exposures can be more widely spread

This survey commenced before the COVID-19 pandemic had taken hold and its full implications were known. The pandemic has shown how the impact on insurers is not always limited to the impact of the initial catastrophe – the higher levels of deaths and illness in this instance. The secondary stresses that have followed the initial catastrophe, for example because of closures of international borders, interruption to businesses and redundancies have resulted in a far larger number of insurers being exposed to risk. These are important considerations for the Reserve Bank and the licensed insurers to keep in mind in assessments of catastrophe going forward.

5 RBNZ report on insurer catastrophe risk survey 2016