REPORT ON HOME AND CONTENTS INSURANCE PRICES IN NORTH QUEENSLAND
# TABLE OF CONTENTS

1. **INTRODUCTION AND SUMMARY OF MAIN FINDINGS** .................................. 3
2. **DATA** ........................................................................................................... 6
3. **PREMIUM RATES** ........................................................................................ 7
4. **CLAIMS COSTS** .......................................................................................... 11
5. **TECHNICAL PERIL COSTS** ....................................................................... 14
6. **CATASTROPHE REINSURANCE** ................................................................. 19
7. **COMPETITION** .......................................................................................... 21
8. **NORTHERN TERRITORY** ........................................................................... 23
9. **CONCLUDING REMARKS** ....................................................................... 25
1 Introduction and summary of main findings

Background

1.1 I have been asked by the Government to conduct a study into home and contents insurance pricing in North Queensland (NQ). This follows a study into residential strata insurance pricing that I completed in June this year.

1.2 Specifically, I have been asked to:

- consider the causes of home and contents premium increases in NQ, taking into account an 8 year timeframe beginning in 2005-06; and
- compare home and contents insurance pricing across Northern Australia and other east coast centres and consider the reasons for any significant variation in pricing across geographic areas.

1.3 This report sets out the results of my investigation.

Brief summary of main findings

Premium rate increases

1.4 NQ home and contents insurance premium rates\(^1\) have increased by around 80 per cent over the period of the investigation. Over the same period, average home and contents premium rates across Australia have increased by about 25 per cent. In Brisbane, the increase was around 45 per cent while in Sydney/Melbourne it was about 12 per cent. The chart below illustrates.

\(^1\) Premium per $'000 Sum Insured
1.5 The claims cost trajectory\(^2\) for NQ, shown below, has been both higher and more volatile than for either Brisbane or Sydney/Melbourne. The impact of Cyclone Larry in 2005-06, the Mackay storms in 2007-08 and Cyclone Yasi in 2010-11 is clearly evident.

1.6 In my view it is likely that major reasons for the premium rate increases experienced in NQ include:

- insurer reaction to losses caused by a number of natural disasters, illustrated in the chart above;
- developments in catastrophe modelling, including cyclone modelling; and
- increases in the cost of catastrophe reinsurance.

1.7 Together, these factors have caused insurers to increase their estimates of NQ home insurance risk.

Comparison of NQ prices with prices elsewhere

1.8 In 2012-13, Brisbane premium rates were about 60 per cent of NQ rates and in Sydney and Melbourne, premium rates were only around 40 per cent of NQ rates. Australian premium rates in 2012-13 were, on average, around 50 per cent of NQ premium rates.

1.9 In NQ, cyclone is a big risk.

---

\(^2\) Incurred claim cost per $'000 Sum Insured. Claim costs are shown relative to NQ in 2005-06.
1.10 The chart below shows insurer estimates of home building claims costs, split between cyclone, other natural peril and non-natural peril causes for each of NQ, Brisbane and Sydney/Melbourne.

![Estimated claims cost by peril chart]

1.11 This chart indicates that the cost of cyclone risk is likely to be the main reason why NQ premium rates are, on average, significantly higher than premium rates in most other parts of Australia.

1.12 Cyclone risk can have a substantial regional impact on premiums.

1.13 Other natural perils can have a substantial impact on individual policyholder premiums. Flood is a good example. Some policyholders face very high flood premiums. However, when considered on a regional level the cost of flood (and other natural peril) tends to be relatively low. In this regard, cyclone risk is unique. This important point is discussed more fully in the body of the report.

1.14 According to the data provided for this investigation, the average cost of cyclone risk for NQ policyholders is higher than the average cost of any other natural peril in most other regions.

1.15 The main exception to this is the cost of cyclone risk in north-west WA which is estimated to be even higher than the corresponding cost in NQ.

---

3 Relative to NQ

4 Storm, flood, bushfire and earthquake

5 For example, fire other than bushfire

6 Storm, riverine flood, bushfire, earthquake
Reading this report

1.16 The purpose of this report is to document the findings of an investigation. The purpose is not to make recommendations.

1.17 This report is intended to be read in its entirety. In particular, it is not appropriate to draw or infer conclusions about the reasons for price variations between NQ and other regions without careful consideration of the whole document.

1.18 The analysis and results in this report are based on aggregating data from a number of participating insurers. They do not reflect the position of any individual insurer.

1.19 In general the charts in this report summarise data items relative to NQ. Thus NQ is shown with a (initial) value of 100 and other regions are shown relative to this. This approach has been taken to protect the commercially sensitive nature of the data provided.

1.20 Commentary on pricing in this report relates to home and contents insurance only and does not relate to any other business segments written by these insurers.

Structure of this report

1.21 This report is therefore structured as follows:

• **Data**: brief description of the data sources for this investigation

• **Premium rates**: comparison of premium rates in NQ with those in other regions

• **Claims costs**: analysis of the relative claims experience in NQ and in other centres over the 8 year period of the investigation

• **Technical peril costs**: consideration of insurer estimates of the cost of various perils, including natural perils

• **Reinsurance**: consideration of the cost of catastrophe reinsurance

• **Competition**: discussion of the role of competition in the pricing process

• **Conclusions**

2 Data

2.1 For the purpose of this report, NQ is taken to include the Marlborough region along with areas in and around Mackay, Proserpine, Townsville, Ingham, Cairns and Cape York. Specifically, NQ is taken to include ICA\(^7\) Cresta zones 6 to 12.

\(^7\) Insurance Council of Australia
2.2 I sought certain historical data from five insurers: Allianz, IAG Group, QBE, RACQI and Suncorp. The historical data provided by these insurers relates to home and contents insurance business in NQ. The historical data covered the 8 financial years from 2005-06 to 2012-13.

2.3 I also sought certain technical data and supporting information from the same insurers. The technical data related to estimates of the expected cost of claims arising from a number of natural and non-natural perils. The technical data was provided individually in respect of a number of regions including NQ.

2.4 I also sought certain historical data from Insurance Statistics Australia (ISA). ISA provided historical premium and claims data by broad geographical region. That historical data also included the period from 2005-06 to 2012-13.

2.5 I have relied on the accuracy of the data provided, along with a number of discussions with the insurers. I carried out brief reasonableness checks on the data and believe the data to be suitable for the current purpose. However, I was not in a position to independently audit the data.

2.6 I have also had discussions with members of the Actuaries Institute who have relevant experience in this area.

2.7 I acknowledge the efforts of the insurers, ISA and the actuaries in providing me with the data and other information and in responding to my subsequent questions.

3 Premium rates

Premium rate trajectory

3.1 The chart below illustrates the trajectory of average NQ premium rates\(^8\) over the period from 2005-06 to 2012-13. The averages shown here are weighted averages\(^9\) of the premium rates implied within the insurer data provided for the investigation.

---

\(^8\) Premium rate refers to premium charged per $’000 Sum Insured. Separate premium rates have been derived for home buildings only, home contents only and combined home buildings and contents policies. Premium rate excludes any taxes and charges.

\(^9\) Weighted by the aggregate exposure of individual insurers in each region
3.2 The solid line in the chart above replicates the line shown in the chart at paragraph 1.4. The other lines show the trajectories of home buildings premium rates and home contents premium rates. Home buildings premium rates have increased faster than home contents premium rates. This feature is not unique to NQ.

3.3 The charts below illustrate the increase in premium rates for Brisbane and for Sydney/Melbourne combined. In both cases, as for NQ, home buildings premium rates have increased faster than home contents premium rates.
3.4 In general, NQ premium rates have increased faster than those in either Brisbane or Sydney/Melbourne.

**Prevailing premium rates in 2012-13**

3.5 The charts below compare the average 2012-13 premium rates in NQ with the average prevailing premium rates in Brisbane and in Sydney/Melbourne. These charts show that the relationship between regions is reasonably consistent across each of home buildings, home contents and combined home and contents insurance policies.
3.6 Average premium rates in Sydney and Melbourne were around 40 per cent of the rates prevailing in NQ. Average premium rates in Brisbane were about 60 per cent of prevailing NQ rates.

3.7 The charts above show average premium rates in the selected regions. Individual insurance policies (and, indeed, individual insurers) would be expected to have different premium rates from the average. Some policies (and insurers) would have higher premium rates than the average and some would have lower premium rates than the average depending, for example, on insurer assessments of risk at an address level.

3.8 There can be quite significant variation between premium rates on individual properties even within a fairly small region. This reflects developments in pricing whereby, increasingly, insurers seek to price at an individual address level. Related
to this, many insurers have recently added riverine flood to the list of covered perils. There is large variation in the cost of flood cover among policyholders.

3.9 That variation is not captured in the charts above. The purpose of this study is to consider premium variations at a regional level. Therefore, it is appropriate to consider variations between regional average premiums rather than address-level variations.

4 Claims costs

4.1 A major driver of premium rates is the expected claims cost. The chart below compares average gross claims cost\(^{10}\) for NQ over the 8 year period of the investigation with the corresponding costs in Brisbane and Sydney/Melbourne combined. On average over the 8 year period of the investigation, claims costs per $'000 Sum Insured in these other major centres and, indeed, across Australia, were less than 20 per cent of those in NQ.

\[\text{Gross claims cost} = \text{incurred claims cost per $'000 Sum Insured}\]
4.3 The charts above compare historical claims cost experience with sum insured. They illustrate that, on an exposure-weighted basis, the recent claims cost experience in NQ was both higher and more volatile than in the other centres.

**Loss Ratio**

4.4 A common metric that is used to assess premium rate adequacy is the loss ratio. The loss ratio simply divides claims costs by premium.

4.5 For home insurance business a loss ratio of around 60 - 65 per cent might be regarded as indicating broadly adequate premium rates. Higher loss ratios than this might be regarded as indicating inadequate premium rates.

4.6 The target loss ratio is less than 100 per cent because the insurer needs to collect sufficient premium to meet not only expected claims costs, but also policy administration expenses, the cost of reinsurance and provide for a reasonable profit margin.

4.7 The chart below shows the actual NQ loss ratio for the period of the investigation.
4.8 The chart shows the actual gross loss ratio during the investigation period averaged more than 140 per cent. This means that insurers paid out more than $1.40 in claims for every $1 of premium that they collected during the period.

4.9 The chart also shows that 2011-12 and 2012-13 have both seen loss ratios better than the target loss ratio, indicating that these years were profitable in NQ. Notably, both 2011-12 and 2012-13 saw benign claims experience with no major weather events in either year. The low loss ratios in these two years are a result of both this benign claims experience and, of course, higher premium rates.

4.10 As there were significant premium rate increases over the period, I have also calculated a notional loss ratio by assuming that the premium rates that prevailed in 2012-13 had, in fact, applied throughout the period. The notional loss ratio is intended to present the current premium rates in a historical context. The chart below illustrates this notional loss ratio.
4.11 Notwithstanding the good performance in 2011-12 and 2012-13, the chart shows that, even if the 2012-13 premium rates applied throughout the 8 year period, an unprofitable loss ratio of close to 100 per cent would have been achieved. This highlights the importance of assessing performance over a longer time period rather than a shorter time period when considering an insurance environment that features volatile claims experience (such as NQ).

5 Technical peril costs

5.1 Home insurance premiums need to cover the following costs:

• The cost of non-natural peril claims (eg fire [other than bushfire], theft, water leakage, etc)

• The cost of natural peril claims (storm, flood, cyclone, earthquake, bushfire)

• Reinsurance

• Administration expenses

• Profit margin

5.2 The first two items and a significant part of the third item relate to the cost of claims and represent a major component of the insurance premium.

5.3 Insurers provided me with estimates of the expected cost of claims\(^\text{11}\), broken down by:

• Claim type – buildings or contents

• Peril - both non-natural and natural peril

• Region - for a number of regions

5.4 These estimates are forward-looking estimates. As such, they give insight into the insurers’ views on risk in the selected regions.

5.5 Notably, the estimates provided varied somewhat among insurers. This variation reflects, in part, differences in their individual risk exposures. It is also likely to reflect differing views among insurers on the underlying risk. This, in turn, reflects that insurance risk valuation is far from an exact science. It involves analysis and interpretation of typically inadequate and possibly inconsistent data drawn from a variety of sources.

\(^{11}\) Per $100,000 Sum Insured
5.6 Despite the variation mentioned above, there were some consistent signals in the data provided. The charts below summarise the main relevant features of the data provided by the insurers.

First, the relativities are consistent among regions in both charts. In each case, the estimated costs for the southern capitals are less than 50 per cent of the estimated costs for NQ. The estimated costs for Brisbane/Gold Coast are around 50 per cent of the estimated costs for NQ. Darwin costs are estimated to be around 75 per cent of NQ costs and north-west WA costs are estimated to be around twice NQ costs.

5.7 Second, and importantly, the estimated cost of cyclone represents the single largest contributor to regional difference. For example, when home buildings and home contents are considered together, the cost of claims related to cyclone risk is estimated to account for about half of the cost of all NQ claims. In contrast, there is no cyclone risk for the southern capitals.
5.9 Third, the estimated cost of non-natural peril claims is consistently higher for home contents than it is for home buildings. This reflects, for example, costs associated with theft and burglary in the home contents context.

5.10 Finally, although there is some regional variation in the estimated cost of claims due to natural peril other than cyclone, the extent of this regional variation is small when compared with the variation due to cyclone.

Non-natural peril claims

5.11 It was noted above that the cost of claims that arise for reasons other than natural peril tends to be higher for home contents business than for home buildings business.

5.12 It is also apparent from the charts above that non-natural peril claims costs are estimated to be higher for NQ than for the other regions shown in the charts.

5.13 The data provided by ISA allowed some analysis of historical claim costs by both peril and region, including for other regions not shown in the charts above. That data suggests that non-natural peril claims costs are often higher in country regions than in metropolitan regions. There are likely to be a number of reasons for this. For example, claims costs have been analysed relative to Sum Insured and sums insured tend to be lower in country regions than metropolitans regions.

5.14 The main point to draw from this discussion is that, although non-natural peril claims costs are estimated to be higher in NQ than in the other regions shown above, this does not appear unique to NQ. Rather it appears to be a feature of the claims experience in a number of country regions.

Natural peril costs (other than cyclone)

5.15 The main natural perils other than cyclone are storm, riverine flood, bushfire and earthquake. It is instructive to consider the insurers’ estimates of the expected cost of natural perils (excluding cyclone). The chart below summarises the data provided by insurers for NQ, Brisbane and Sydney/Melbourne.

---

12 Per $’000 Sum Insured

13 Again, these relativities differ among individual insurers.
5.16 Insurers estimate that the costs of natural peril claims (other than cyclone) are, on average, broadly similar among the regions shown.

5.17 Costs associated with storm are estimated to account for more than half of the non-cyclone natural peril costs in these regions. Indeed, storm represents the costliest natural peril across Australia when measured in aggregate dollar terms. In other words, insurers typically pay more out on storm-related claims than on any other natural peril. However, since storm risk is widespread, the cost of storm risk is also spread widely across a large number of policyholders in many regions. As a result, unlike cyclone risk, storm risk does not lead to large regional variations in premium rates.

Flood vs cyclone

5.18 It is instructive to consider how the cost of riverine flood risk and the cost of cyclone risk impact on premiums.

5.19 Flood cover is increasingly available under home and contents insurance policies. Indeed, many policies now cover flood risk as a standard inclusion. Most households have little or no flood risk and, for them, the cost of flood cover is negligible.

5.20 However, for some individual properties, the cost of flood cover is very high.

5.21 Indeed, for some properties, the cost of flood cover can be much higher than the maximum cost of cyclone cover for any property in NQ.

5.22 The chart below compares insurer estimates of the maximum cost of cyclone risk among NQ policyholders with the maximum cost of flood risk, also among NQ
policyholders. The maximum NQ flood risk is estimated to cost more than 2.5 times as much as the maximum NQ cyclone risk\(^{14}\).

5.23 However, when the cost of flood risk is averaged across all policyholders in a region (even a fairly small region), the (average) cost generally tends to be relatively low.

5.24 The chart below compares the estimated average cost of cyclone risk for NQ policyholders with the estimated average cost of flood risk. It shows that when both cyclone and flood costs are averaged across all NQ policyholders, the cost of flood is only about 10 per cent of the cost of cyclone.

---

\(^{14}\) Per $'000 Sum Insured
5.25 While some NQ policyholders are at greater risk from cyclone than others, most policyholders in the region are at some risk, resulting in a significant regional premium impact due to cyclone.

5.26 On the other hand, while some NQ policyholders might face extreme flood risk, most policyholders will not have any flood risk. This tends to be the case for regions generally. When averaged out across all policyholders in a region, the cost of flood risk will usually tend to be relatively low. As a result, unlike cyclone risk, there will generally not be any significant regional premium impact as a result of flood risk.

6 Catastrophe reinsurance

6.1 Insurers purchase reinsurance to transfer some of the risk from their balance sheet. Without reinsurance, an insurer would be exposed to the risk of very large losses arising from a single catastrophic event.

6.2 Property insurers typically purchase what is known as catastrophe reinsurance. This type of reinsurance responds when a single catastrophic event leads to losses of a specified amount for the insurer. The specified amount is called the attachment point. For example, an insurer might carry catastrophe reinsurance with an attachment point of $50m. This means that any single catastrophic event which led to claims against the insurer of less than $50m would not be covered at all by the catastrophe reinsurance. However, if claims against the insurer from a single catastrophic event exceeded $50m, then catastrophe reinsurance would cover the excess claims cost over and above $50m.†

6.3 Catastrophe reinsurance policies are typically purchased in respect of an insurer’s entire property portfolio. That is, there will usually not be separate catastrophe reinsurance policies for separate blocks of property business. Rather there will usually be one policy covering the whole property portfolio. Home and contents insurance in NQ is likely to represent only a fairly small percentage of an insurer’s portfolio. An insurer’s catastrophe reinsurance policy would therefore provide protection for far more of its business than just its NQ home insurance business.

6.4 The cost of the catastrophe reinsurance cover needs to be passed on to policyholders. In other words, each policyholder’s premium must include an allowance for an equitable share of the cost of catastrophe reinsurance.

6.5 There is no single correct way for an insurer to determine the share of the catastrophe reinsurance premium that is to be allocated to individual policies. In recent years, this process has been informed by catastrophe modelling. The level of sophistication of this modelling is improving, allowing more granular estimation of risk. As a result, catastrophe reinsurance costs are now increasingly allocated in line

† Up to the limit of the catastrophe reinsurance policy
with the assessed risk presented by the underlying policy. Having said that, catastrophe modelling remains an inexact science.

6.6 Under a risk-based cost allocation methodology, the cost of catastrophe reinsurance that is to be allocated to a particular policy will depend on the extent to which that policy is expected to ‘benefit’ from the catastrophe reinsurance protection. This, in turn, will depend on:

- The insurer’s exposure in the relevant region. More exposure to a particular region increases the likelihood that a catastrophic event in that region will trigger the catastrophe reinsurance, all else equal.
- The frequency of catastrophic events in the relevant region.
- The potential scale of losses from a catastrophic event in the region.

6.7 These factors interact in a somewhat complex way. Further, the frequency and scale of catastrophic events can only be estimated within a fairly wide band of uncertainty. Nonetheless, the significantly higher frequency of cyclone in NQ compared with the frequency of, say, earthquake in the capital cities means that the cost of the catastrophe reinsurance cover is likely to be skewed towards NQ if an insurer has exposure in NQ. In other words, an additional dollar of exposure in NQ is likely to result in more catastrophe reinsurance premium than an additional dollar of exposure in, say, Sydney.

6.8 There was some variation (in the data provided for the investigation) between insurers in respect of the cost of catastrophe reinsurance notionally allocated to their NQ home insurance business. This variation is likely to reflect a number of factors, including the geographical spread of their property business, the size and shape of their catastrophe reinsurance programs and their views on the underlying risks to their property portfolios. The chart below illustrates the broad trend in the allocated cost of catastrophe reinsurance to NQ home insurance business, when considered on an exposure-weighted basis.
6.9 It will be seen that this trend is not inconsistent with the trend in NQ home insurance premium rates illustrated in paragraph 3.1. The cost of catastrophe reinsurance is a material component of the NQ home insurance premium, accounting for perhaps 20 to 40 per cent of the underlying premium.

7 Competition

Discussion

7.1 Premium rates have increased faster in NQ than in other centres.

7.2 The chart below illustrates by comparing the home insurance premium rate trajectories\textsuperscript{16} for NQ, Brisbane and Sydney/Melbourne.

\textsuperscript{16} Combined home buildings and home contents premium rates
7.3 To illustrate possible reasons for the widening of the premium rate gap, the chart below shows the cumulative loss ratios\textsuperscript{17}, commencing in 2005-6, for NQ and for Brisbane and Sydney/Melbourne combined over the investigation period. The widening of the premium rate gap has helped to improve the cumulative loss ratio for NQ somewhat.

7.4 It is likely that the widening of the gap between NQ premium rates and premium rates in the other centres was primarily related to the scale of losses that had been incurred over a period of years. Over the four years to June 2009 participating insurers collectively suffered insurance losses in NQ of more than 100 per cent of

\textsuperscript{17} Found by dividing the progressive sum of annual incurred claims costs by the progressive sum of annual premium
premium (cumulative loss ratio to that time of around 200 per cent). Cyclone Yasi in 2011 added further impetus.

7.5 This period of poor experience broadly coincided with developments in catastrophe modelling capability, including cyclone modelling. That modelling further focussed insurer (and reinsurer) attention on the scale of cyclone risk. At the same time, reinsurance costs increased.

7.6 In my view it is likely that these factors combined to lead insurers to a view that prevailing premium rates in NQ were too low when compared with the risk being carried and that rate increases were needed to restore profitability.

7.7 Ultimately, however, insurance pricing must have regard to commercial considerations as well as the factors described above. In a competitive market it is not always possible for insurers to set prices at the level they believe to be necessary to achieve the desired profit margin. Whenever there is an appetite to gain or protect market share, competitive pressure can and will be brought to bear on prices. In my view this competitive pricing pressure is largely missing in NQ. Those insurers who participate in the NQ market do not appear particularly anxious to protect or grow market share in that market. Accordingly, in my view, it has been possible for insurers participating in that market to make their pricing decisions largely unconstrained by competitive forces. Although this is a second order issue compared with the poor experience, it has played a part in the premium rate increases.

8 Northern Territory

8.1 The ISA data allows comparison of NQ premium rates with NT premium rates.

---

18 Not all home and contents insurers choose to participate in the NQ market
8.2 Over the period of the investigation NT premium rates have remained stable while NQ premium rates have increased significantly.

8.3 The chart below compares the cumulative loss ratio for NT with that of the other centres. The chart shows that NT claims experience has been relatively benign throughout the period of the investigation.

8.4 In my view, the stable premium rate trajectory for NT is consistent with the benign claims experience. There are likely to be a number of reasons for the (relatively) lower claims cost in the NT than in NQ. Probably the most important reason is that the region has not experienced major weather-related insurance losses during this period. This may reflect a lower underlying risk exposure for NT, including a lower cyclone risk exposure. Indeed, the charts at paragraph 5.6 are consistent with this. It probably also reflects an element of luck.
9 Concluding remarks

9.1 NQ experienced a number of weather events during the period of the investigation which led to significant insurance losses. This period of poor claims experience coincided with developments in catastrophe modelling, including cyclone modelling. Catastrophe reinsurance costs also increased.

9.2 All of these factors increased focus on cyclone risk.

9.3 In my view it is likely that these factors combined to lead insurers to a view that rate increases were needed to restore profitability. Indeed this appears likely to be the main reason for the rate increases in NQ that have occurred. At the same time, it appears that it was possible for insurers to implement rate increases largely unconstrained by competitive forces.

9.4 The average premium rate in NQ in 2012-13 was considerably higher than the average premium rate in Brisbane and Sydney/Melbourne. Indeed, according to the data provided, the average Brisbane rate was only around 60 per cent of the average NQ rate while Sydney/Melbourne rates were around 40 per cent of NQ rates.

9.5 Relevantly, differences between NQ premium rates and those in Brisbane and Sydney/Melbourne are consistent with differences in the estimated cost of cyclone risk. In my view, the estimated cost of cyclone risk is likely to be the main reason why NQ premium rates are, on average, significantly higher than premium rates in most other parts of Australia.

Peter Martin
Australian Government Actuary
3 November 2014