



Australian Government

Australian Government Actuary

**REPORT ON INVESTIGATION INTO STRATA TITLE
INSURANCE PRICE RISES IN NORTH QUEENSLAND**

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1 Introduction

- 1.1 Premium increases of several hundred per cent over the past few years have been a feature of residential strata title insurance in North Queensland (NQ).
- 1.2 On 28 June 2012 the Government asked the Australian Government Actuary to investigate the causes of the premium increases and to report by 30 September 2012. This was in response to a report by the Standing Committee on Social Policy and Legal Affairs presented in March 2012¹.
- 1.3 This report sets out the results of my investigation.
- 1.4 I examined whether some or all of four possible factors (identified in the Committee's report) are likely to have contributed to the premium increases. The factors considered were:
- historical under-pricing;
 - the cost of reinsurance;
 - recent losses caused by natural disasters and the associated accumulation of risk in NQ; and
 - decreasing competition, leading to price gouging.
- 1.5 I have found that the first three items are inter-related and that a convergence of events has led to the premium outcomes that have been observed. I have not found that insurers have been price gouging.

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 and Cairns.
- 2.2 I sought and obtained historical data from three insurers: CGU, Suncorp and Zurich. The data provided by these insurers relates to residential strata title insurance business in NQ between FY2007 and FY2012².
- 2.3 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. However, I was not in a position to independently audit the data.

¹ The Committee's report is titled "In the Wake of Disasters Volume Two: The affordability of residential strata title insurance"

² The data was provided for each of six financial years, 2006-07 to 2011-12. In this paper I have referred, for example, to 2006-07 as FY2007. Similarly 2011-12 is referred to as FY2012.

2.4 I acknowledge the efforts of the insurers in providing me with the data and responding to my subsequent questions.

2.5 Commentary on pricing in this report relates only to residential strata title insurance in North Queensland and not to any other business segments written by these insurers.

3 Historical under-pricing

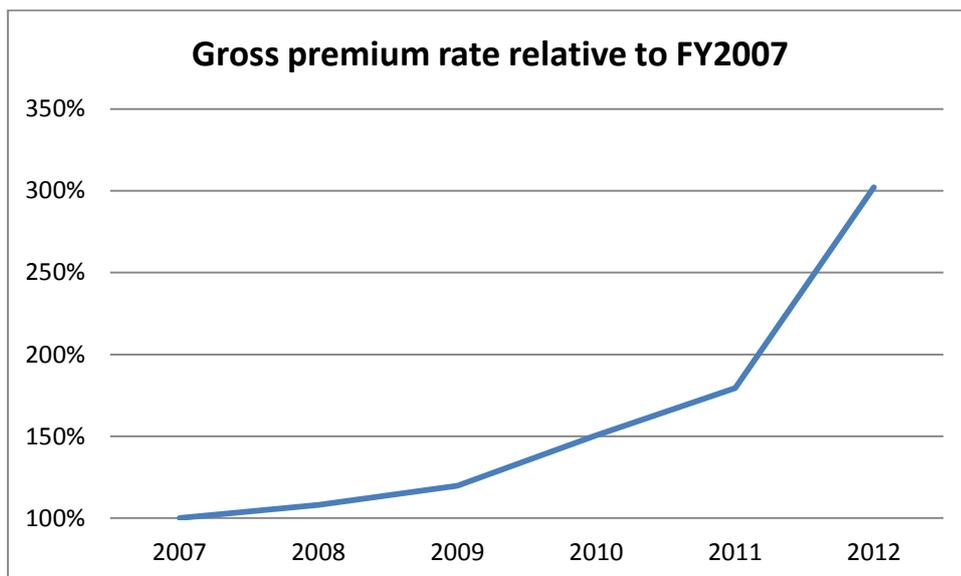
3.1 In order to examine whether historical under-pricing has played a part, it is instructive to look at recent insurer experience.

3.2 A series of graphs is presented below to illustrate key aspects of the recent experience.

Premium Rate

3.3 The first chart shows how the average premium rate (consolidated across the three insurers) has increased over the last several years, relative to premium rates that prevailed in FY2007³. The chart shows that the average premium rate has more than tripled over the five financial years since FY2007.

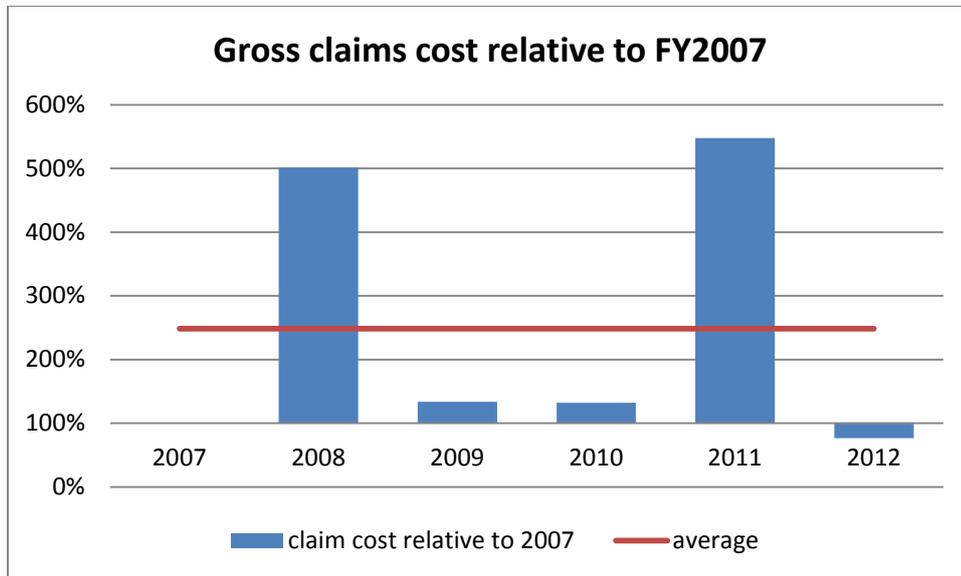
3.4 This chart shows how average premium rates have increased across the three insurers combined. Individual insurance policies (and, indeed, individual insurers) would be expected to have experienced a different level of premium increase from this average. Some policies would have experienced larger premium increases than the average and some would have experienced lower increases. The chart, however, shows that the average rate of increase has been high.



³ Premium rate refers to the amount of premium per \$1,000 Sum Insured.

Gross claims cost

3.5 The second chart shows the gross claims cost over the same time, again relative to FY2007⁴. The gross claims cost refers to the total cost of paying property damage claims on NQ strata title insurance policies, before allowing for any recoveries from reinsurance.



3.6 The chart highlights the significant volatility in claim experience. This volatility relates directly to weather events. In FY2008, storms in Mackay led to significant claims. Indeed, in FY2008 the cost of claims for the insurers was 5 times as high as it was in FY2007. In FY2011, Cyclone Yasi resulted in claims in other areas (eg Townsville), again at much higher cost than in FY2007. FY2012 has been benign, with claims of around 75 per cent of those in FY 2007 (on a Sum Insured - weighted basis) and about 30 per cent of the average claims cost over the period. Average annual claims cost over the period shown has been almost 2.5 times the ‘base’ level in FY2007.

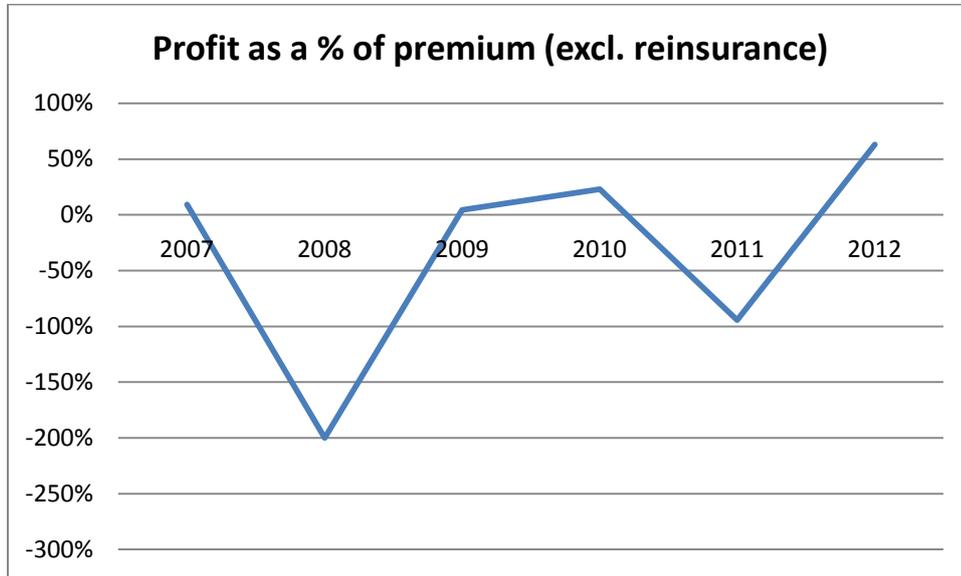
Base profitability

3.7 The chart below shows ‘base’ profitability (before tax) as a percentage of premium (excluding any taxes and charges)⁵, but before allowing for any reinsurance. Base profitability is calculated before allowing for either the cost of reinsurance or any recoveries from reinsurance. The governing formula is:

⁴ Again, on a Sum-Insured weighted basis, in order to allow direct comparison between years

⁵ In general, in this report profit has been expressed as a percentage of earned premium, excluding any taxes and charges.

$$\text{Base profitability} = \frac{\text{premium} + \text{investment revenue} - \text{gross claims cost} - \text{commission} - \text{expenses}}{\text{premium}}$$



- 3.8 It can be seen that base profitability has been very poor in those years where significant weather events have occurred (FY2008 and FY2011). In FY2007 and FY2009 there were no significant natural disaster events but base profitability was still poor at less than 10 per cent of premium.
- 3.9 Over the whole period, base profitability has been around -30 per cent of premium. This means that for every \$100 of premium earned by the insurers (including the investment return on the invested premium), around \$130 has been spent on claims, commission and operating expenses. It will be seen that this is a very poor result, particularly when it is borne in mind that the cost of reinsurance (not yet allowed for in the chart above) is expected to exceed the level of reinsurance recoveries, on average.
- 3.10 FY2012 looks better with base profitability at around 60 per cent of premium. However, again, this is before allowing for any reinsurance costs. As can be seen later, profitability in FY2012 drops to less than 20 per cent of premium after allowing for reinsurance costs. Relevantly, as noted above, FY2012 has been a benign claims year, with claims running at only around 30 per cent of the average cost for all years shown and lower than any other year shown.

Conclusion on historical under-pricing

- 3.11 The charts above provide good evidence that the business has been under-priced historically. This is a simple factual observation. That is, the premiums that were charged were not enough to cover the risk.
- 3.12 There are two main possible reasons for the historical under-pricing: either prices were set low deliberately in order to grab market share or prices were set low unintentionally as a result of a poor understanding of the underlying risk.
- 3.13 In most markets where goods or services are bought and sold, the cost of supplying the product is known to the supplier. A retailer, for example will know how much its stock has cost. Prices which are to be charged to consumers can then be built around this knowledge. That is, in most markets the supplier will know whether a particular price is profitable or loss-making. However, in the insurance market, the cost of the product being sold (this refers to the value of the underlying risk) can only be estimated. It cannot be known with certainty.
- 3.14 For some insurance business segments (eg motor vehicle insurance), it is possible to obtain quite good estimates of the value of the underlying risk and therefore of cost of the product being sold. However, for small business segments (especially those which involve relatively large accumulations of risk in weather-exposed areas) it is often only possible to obtain quite poor estimates of the cost of the product being sold. This makes 'accurate pricing' of these segments difficult. Strata title in NQ is one such small business segment.

4 Reinsurance

Catastrophe reinsurance - background

- 4.1 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 (such as a cyclone in NQ).
- 4.2 The gross claims cost chart above illustrates the volatility in claims cost that can arise when there is no reinsurance protection and an accumulation of exposure to weather-related risk.
- 4.3 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

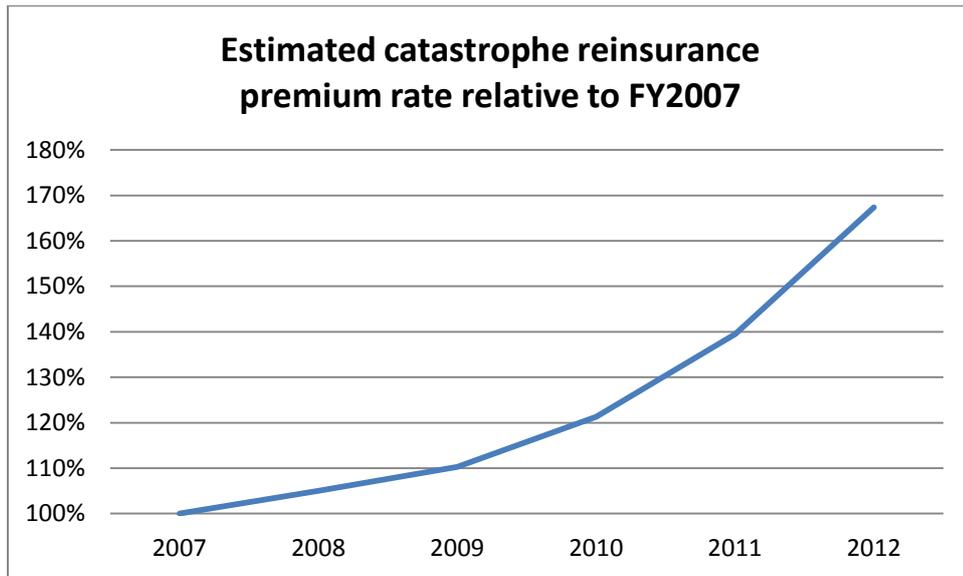
- 4.4 Catastrophe reinsurance policies are typically purchased in respect of an insurer's entire property portfolio. That is, there will not be separate catastrophe reinsurance policies for separate blocks of property business. Rather there will usually be one policy covering the whole property portfolio. It is important to note that strata title insurance in NQ is likely to represent only a 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 strata title business.
- 4.5 In order to build up a realistic picture of the drivers of an insurer's actual profitability (after taking into account the cost of its reinsurance protection), it has to allocate a reasonable share of the cost of its catastrophe reinsurance premium to individual policies within its portfolio. In recent years, this process has been informed by catastrophe modelling. The level of sophistication of this modelling has increased recently, allowing more granular estimation of risk. As a result, catastrophe reinsurance costs are now increasingly allocated in line with the assessed risk presented by the underlying policy. Having said that, catastrophe modelling remains an inexact science.

Catastrophe reinsurance costs

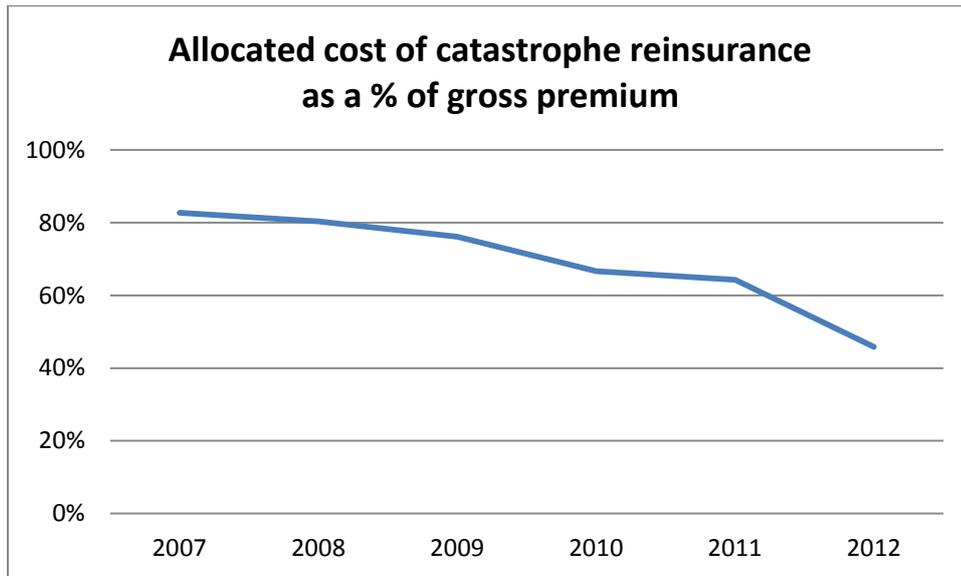
- 4.6 The chart below shows the (estimated) allocated cost of catastrophe reinsurance for the period, relative to FY2007⁷. Overall, the allocated cost of reinsurance is estimated to have increased by around 65 per cent from FY2007 levels. This increase is in real terms, as the underlying data has been standardised to Sum Insured.

⁶ Up to the limit of the catastrophe reinsurance policy

⁷ Again, standardised to Sum Insured



- 4.7 It is important to note that it is difficult to get an accurate picture of the trend in reinsurance premium rates over the period. Each insurer will have its own reinsurance program designed to fit with its own risk appetite. This means that simply consolidating the data across insurers might be misleading. Accordingly some judgement is needed to aggregate this aspect of the data provided. I have made some adjustments after discussion with the insurers to try to put this information onto a broadly consistent basis. However, it needs to be understood that the approach taken is somewhat subjective. Despite this I believe that the adjusted data is likely to be reasonable for the current purpose.
- 4.8 The chart below shows estimated cost of catastrophe reinsurance, expressed as a percentage of gross premium over the same period. It can be seen that, although I estimate that the cost of reinsurance has increased by almost 70 per cent over the period in real terms, when expressed as a percentage of premium charged for strata title insurance, it has decreased. This is because the increase in the cost of reinsurance has been more than offset by an increase in the gross premium.



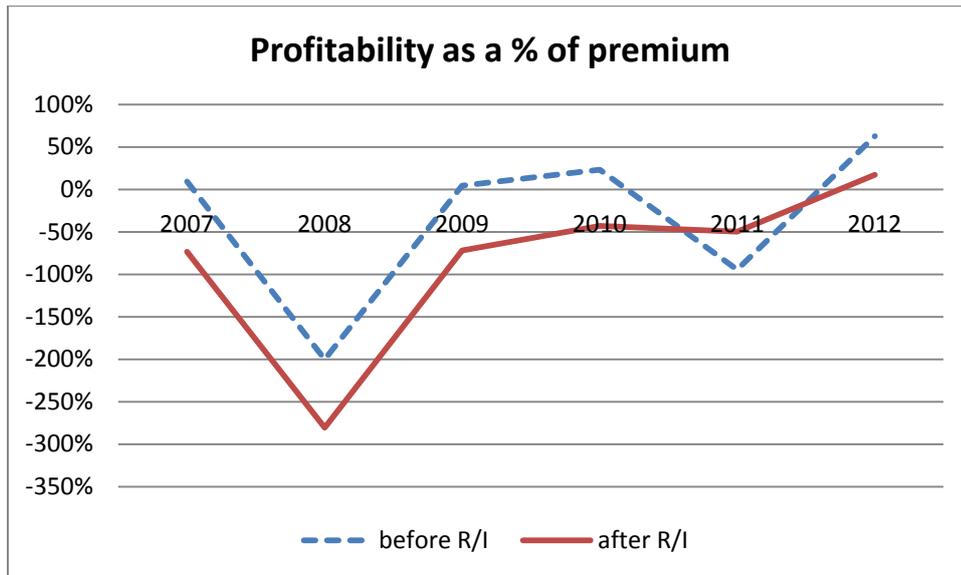
- 4.9 The apparent kink in the curve in FY2011 relates to one insurer's methodology for allocating the cost of catastrophe reinsurance to individual policies within the portfolio – the insurer had anticipated a drop in the size of its NQ strata insurance exposure in FY2011 but this decrease did not eventuate resulting in a higher than expected exposure to weather related risk in NQ. In turn, the allocated cost per policy was more than expected (largely because the premiums actually charged were less than they would have been had the insurer properly estimated its exposure).
- 4.10 It can be seen that before FY2010, the allocated cost of reinsurance was around 80 per cent of the total premium charged. This did not leave sufficient premium to cover the cost of net claims, commissions, other expenses or, of course, profit.
- 4.11 The chart above is based on a reinsurance cost allocation methodology that is intended to realistically reflect the catastrophe risk associated with individual policies. Relevantly, this more precise allocation of the cost of reinsurance to individual policies is a fairly recent phenomenon. As noted above, it has coincided with the development of more sophisticated modelling capability. Prior to the last few years, a simple apportionment of reinsurance costs was more the norm. This meant that realistic analysis of the 'actual' profitability of certain business segments was not possible until now. Equivalently, the pricing methodology that was applied between say FY2007 and FY2009 would not have comprehended a realistic and risk-based allocation of the cost of catastrophe reinsurance⁸.

⁸ In other words, this chart shows the allocated reinsurance cost using a contemporary cost allocation methodology and applying this to actual premiums charged. In other words it presents a realistic risk-based allocation of the reinsurance cost, rather than the allocation that would have been assumed in the earlier years for pricing purposes.

Overall profitability

4.12 It is appropriate to consider overall profitability, after incorporating the cost of reinsurance and also allowing for reinsurance recoveries. Reinsurance is expected to 'smooth' results.

4.13 The chart below shows overall profitability. For reference, the earlier chart showing base profitability has also been included.



4.14 It will be seen that in most years, the impact of catastrophe reinsurance results in overall profitability being lower than base profitability. This is because the catastrophe reinsurance has to be paid for (which increases expenses) and unless there is a catastrophe, there will not be any recoveries (revenue) from the catastrophe reinsurance policy.

4.15 In FY2008, the claims cost arising from the Mackay storms was not enough to trigger the catastrophe reinsurance policies of any of the insurers. On the other hand, in FY2011, reinsurance recoveries flowed following Cyclone Yasi because the claims cost for Cyclone Yasi exceeded the reinsurance attachment point(s). This meant that in FY2011, the losses made by the insurers were not as bad as they would have been without any reinsurance. In that year, the reinsurance protection acted to dampen the impact of the catastrophe on the insurers' bottom lines.

4.16 Over the whole period, overall profitability is estimated at about -60 per cent of premium. This means that for every \$100 of premium earned by the insurers (including the investment return on the invested premium and also allowing for recoveries from reinsurance), around \$60 has been spent on the purchase of reinsurance, claims, commission and operating expenses.

4.17 FY2012 is profitable at more than 15 per cent of premium (excluding taxes and charges), after incorporating the cost of reinsurance. However, recall that FY2012 has been a benign claims year. If claims costs and reinsurance recoveries had been

at an 'average level' during FY2012, then profitability would have been lower than 15 per cent or premium. Note again, that this observation is based on an aggregation of the data provided by three insurers. Individually, the results differ although the picture is broadly consistent.

Conclusion on reinsurance

- 4.18 Increasing reinsurance costs have been suggested as a reason for the increase in strata title premiums.
- 4.19 While it is true that reinsurance costs have increased significantly over the past few years (perhaps by around 60 to 70 per cent) and that further increases are likely, these increases are not, of themselves, responsible for the magnitude of the premium increases that have been experienced (more than 300 per cent across the period).
- 4.20 Rather, it is likely that increasing sophistication in the allocation of reinsurance costs to individual policies has also had an impact. Insurers have become aware over the last few years that, for pricing purposes, they have not been allocating reinsurance costs efficiently in line with underlying risk. This, in turn, has meant that, until recently, insurance premiums have not been sufficient to cover all of a fair share of the cost of reinsurance, the cost of claims, commissions, and underwriting expenses, let alone leave a reasonable margin for profit. Significant premium increases have been required to cover all of these items including, particularly, a fair share of the cost of reinsurance as well as leave sufficient margin for profit.
- 4.21 It is instructive to try to estimate the level of overall profitability for the six financial years under consideration, if it is assumed that the premium rates that prevailed in FY2012 had in fact applied throughout the six year period. To do this, it is necessary to make some (somewhat subjective) adjustments in respect of the cost of reinsurance and commissions, in particular. Under certain assumptions, it is possible to conclude that the premium rates for FY2012 better reflect the underlying risk than those which applied earlier. However, in my view, consideration of the experience over the whole six year period together does not support a conclusion that the rates that applied in FY2012 are unreasonably high, on average. Note that this comment does not apply in respect of the premium rates on individual policies. My analysis has not extended to considering the rates on individual policies.

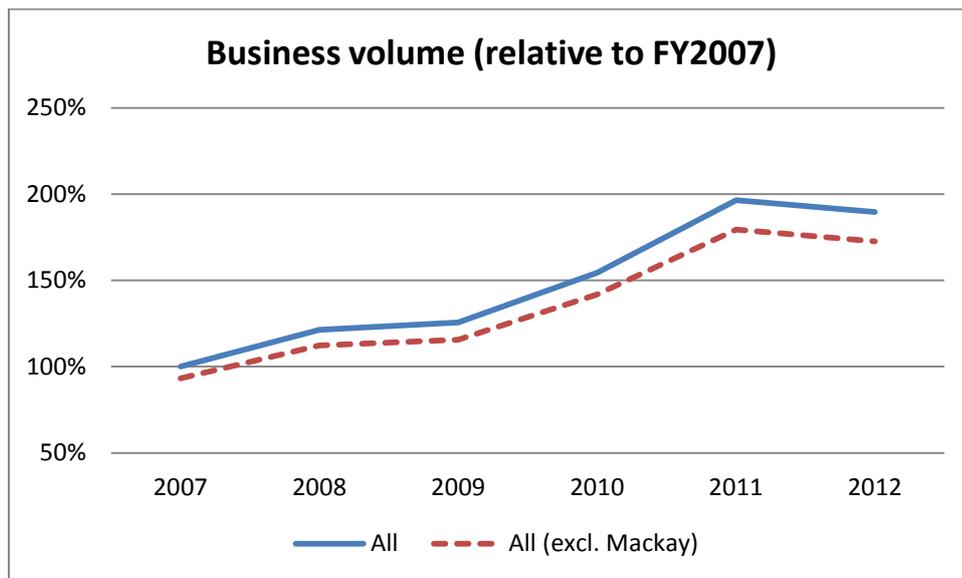
5 Cost of natural disasters and risk accumulation

- 5.1 Loss making business tends to focus an insurer's attention.
- 5.2 It is clear that insurers should at all times take steps to ensure that their pricing is robust. In practice, the attention given to a particular segment of a portfolio will, in part, be a function of the size of that segment. Larger business segments are expected to contribute more to overall profitability, all else being equal. It will also be a function of the volume of available data. The more experience data that is

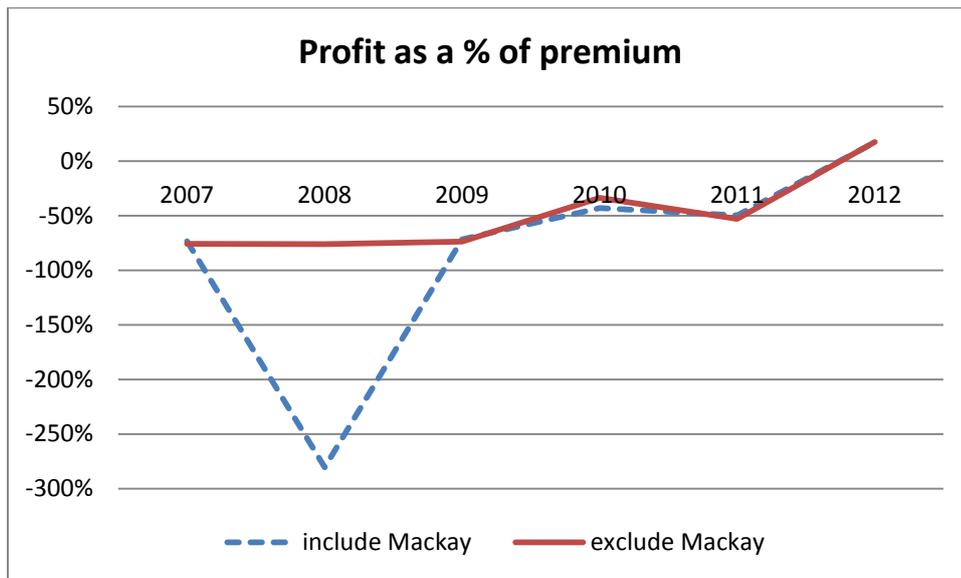
available, the greater is the depth of analysis that can be undertaken. Relatively less attention might be given to small business segments without a lot of experience data. An insurer has to make decisions about the most efficient deployment of its resources. It can be the case in practice, then, that premium rates on small business segments can go without a lot of attention for as long as significant losses are not being incurred.

5.3 Strata title insurance in NQ is a small business segment. It is also the case that much of the strata development in NQ has occurred over the past decade or so and, therefore, the volume of available experience data is limited. Cyclone Larry occurred in 2006 when the level of strata development in the region was less than it is today. Since then, the Mackay storms in FY2008 and Cyclone Yasi in FY2011 have caused insurers to reassess their NQ exposures.

5.4 Examination of the Mackay storms provides some insight into the problems that can be caused by an accumulation of risk in a weather-exposed region, even in a small portfolio. The chart below shows that Mackay accounts for less than 10 per cent of the insurers' NQ strata title insurance business (measured by Sum Insured).



5.5 Although Mackay accounts for only a small share of the business, it had a material impact on profitability in FY2008 and, indeed, as a result of that one year, it had a material impact on profitability for the six years as a whole. The chart below illustrates.



5.6 As noted above, overall profitability over the whole period was around -60 per cent of premium. When Mackay is excluded, that figure is around -35 per cent. This means that, although Mackay accounted for less than 10 per cent of the business, it accounted for well over 40 per cent of the overall insurance result. This is because of the large losses that occurred following the storms in Mackay in FY2008. Note that this sort of outcome (where a small fraction of the business contributes disproportionately to the overall result) only occurs when losses are made in that small fraction of the business. A small fraction of the business cannot contribute disproportionately to a positive profit result. That is, accumulation risk is one-sided. From an insurer’s perspective, accumulation risk is a downside risk.

Conclusion on natural disasters and risk accumulation

5.7 The discussion above highlights the pricing challenges that can be caused by an accumulation of risk in a weather-exposed region, especially in a small portfolio. It also notes the likelihood that small business segments may not get the attention to pricing that they arguably should.

5.8 On top of that, the experience in NQ strata title insurance over the past several years has been loss making. In general, loss making experience is likely to focus an insurer’s mind, even if the losses arise in a small business segment.

5.9 It appears reasonably likely that, prior to the last few years, the pricing of strata title insurance in NQ did not receive a great deal of attention from the participating insurers but that, subsequently, these factors have contributed to the steep increases in price.

6 Competition

6.1 The role of competition warrants consideration.

- 6.2 Deep and competitive markets tend to deliver good price outcomes for consumers. When there is abundant supply of a product, downwards price pressure can be expected. Conversely, when supply is limited and demand is high, prices can tend to be higher.
- 6.3 The insurance market is not immune from cyclic behaviour. The insurance cycle is characterised by periods of good supply and relatively low prices (referred to as a soft market) and periods where supply is more limited and prices are relatively high (referred to as a hard market). Insurance markets tend to harden following periods of loss making.
- 6.4 The available evidence supports a view that the strata title insurance market in NQ is not deep. Supply has been affected by the withdrawal of some insurers from this region. This means that prices were unlikely to remain low and this indeed seems consistent with the available data. The question is, however, whether the prices being charged today are unreasonably high.
- 6.5 Price gouging can occur in a market where there are barriers to entry. 'Barriers to entry' refers to the difficulty that potential new suppliers have in entering a market, for example, as a result of substantial regulatory burden. Where there are no barriers to entry, economic theory suggests that price gouging can only occur for short periods, if at all. This is because new supply will emerge quickly when prices that can be charged are abnormally high.
- 6.6 In this regard, it is noteworthy that at least one significant player in the national strata title insurance market does not currently participate in the NQ market. There is no reason to believe that this is as a result of any barrier to entry. Should the insurer wish to participate in the NQ market, it could do so. It is also reasonable to assume that, if it believed that the prices that could be charged in NQ were sufficiently profitable for its own risk appetite, it would, indeed, choose to enter that market.

Conclusion on competition

- 6.7 While it is true that there is limited competition in the NQ strata title insurance market, it is not clear that this has resulted in prices which are unreasonably high when assessed against the underlying risk.
- 6.8 Further, despite the high prices that are currently being charged, the continued absence of at least one significant player from the NQ market does not appear consistent with a claim that prices that are too high for the underlying risk.

7 Concluding remarks

- 7.1 The analysis presented in this paper illustrates the very steep increases in price that consumers have had to bear over the past several years.

- 7.2 It also supports a view that the main contributing factors to the steep price increases include:
- historical under-pricing
 - the role of reinsurance – in particular, the recent trend for insurers to allocate the cost of reinsurance to particular insurance policies on a risk-weighted basis rather than by simple apportionment
 - recent losses caused by natural disasters
- 7.3 My analysis supports a view that insurers got their pricing wrong by a large margin for the few years from FY2007 onwards. Pricing errors of this magnitude are unlikely to engender confidence in the insurance industry. Having said that, it is relevant that my analysis has been undertaken with the benefit of hindsight.
- 7.4 I have noted that, in the insurance market, the cost of the product being sold (this refers to the value of the underlying risk) can only be estimated and often only quite poorly. This makes ‘accurate pricing’ of some business segments difficult. Strata title in NQ is one such small business segment.
- 7.5 My analysis also supports a view that the premiums were significantly under-priced, even before allowing for the allocation of reinsurance costs. Although it is true that the approach taken by insurers to allocate reinsurance costs involves a degree of subjectivity, there is no subjectivity involved in comparing the gross premium collected with the gross claims paid out. Therefore, even though it is likely that the changing approach to the allocation of reinsurance costs has contributed to the increase in premiums, it is also inevitable that premiums would have increased significantly even if the approach to reinsurance cost allocation had remained unchanged. Further, despite the degree of subjectivity involved, a risk-based approach to allocating reinsurance costs is the most appropriate way for an insurer to assess its true profitability. Moreover, any other approach would be expected ultimately to lead to anti-selection problems for insurers in other parts of their portfolio.
- 7.6 It appears reasonably likely that one of the factors contributing to the under-pricing of NQ strata was a lack of sophistication and rigour in the pricing methodologies that were being applied to that business segment in the few years from FY2007 onwards. Thus, in part because this business represented a very small share of the total property business being written by participating insurers, it is possible that it simply did not get the attention that it needed and should have received at the time. It appears reasonably likely that subsequent losses have focussed the attention of insurers who are now bringing more rigour to the process.
- 7.7 From the analysis that I have undertaken, I am not able to conclude that the historical under-pricing was motivated by a deliberate attempt by one or more insurers to grab market share. This sort of approach is usually based on a plan to eliminate competition in order to be in a position to ‘price gouge’. I have not

observed this behaviour. Rather, the response from a number of insurers has been to withdraw either completely or largely from the NQ market, having sustained significant losses. From a consumer's perspective the motivation for the historical under-pricing is largely irrelevant, anyway. Regardless of motivation, the fact is that consumers have been faced with steep price increases.

- 7.8 Finally, catastrophe modelling is an evolving science. As each new piece of experience unfolds, insurers will necessarily and inevitably update their pricing assumptions and algorithms. Taking all of this together, it is not possible to guarantee that there will not be any future increases. Although my analysis suggests that prices are now more likely to better reflect the underlying risk than previously, the experience of the past six years would not support a view that prices today are unreasonably high. However, encouragingly, I would regard current market conditions as being more likely to attract new insurer participation than at any time during the past few years.



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3 October 2012