



# Reserve Bank of New Zealand Analytical Notes

## Solvency trends for New Zealand licensed insurers: 2013 to 2018

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## NON-TECHNICAL SUMMARY<sup>1</sup>

This *Analytical Note* looks at the level and trends in the solvency positions over the five years to 30 September 2018. Solvency position is the capital buffer in excess of minimum requirements, and can be expressed as a \$ amount (solvency margin) or a ratio of actual to required capital (solvency ratio).

Approximately 60 New Zealand licensed insurers are subject to the Reserve Bank's solvency requirements calculated in accordance with solvency standards, which apply generally, and insurer-specific licence conditions. The solvency calculations are based on the size and nature of the key financial risks that insurers face.

The other (approximately 30) insurers are exempted from the Reserve Bank's solvency requirements and are instead subject to the solvency requirements of their home supervisor. For example, branches of Australian insurers are subject to the solvency requirements of Australian Prudential Regulation Authority ("APRA").

For insurers subject to Reserve Bank solvency requirements, the aggregate solvency margin was \$1.6 billion in excess of licence conditions at 30 September 2018. While this is the same level as 30 September 2013, the aggregate solvency margin was higher during 2016 & 2017.

Larger insurers have lower solvency ratios than smaller insurers. Over the past five years the solvency ratio for larger insurers has reduced while for small insurers it has increased.

During the last five years, there have been some instances of insurers being in breach of solvency requirements. In most cases, solvency breaches were very quickly resolved, usually by injecting additional capital. Insurers that did not quickly resolve a solvency breach were closed to new business.

Compared with common annual movements in solvency ratio, some insurers have a low solvency ratio. This includes some large insurers.

Australian insurers with branches in New Zealand have higher solvency ratios under APRA requirements than the insurers subject to Reserve Bank solvency requirements, and the Australian solvency ratios have increased since 2013.

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<sup>1</sup> This analytical note is based on a paper presented to the New Zealand Society of Actuaries in October 2018, and updated for subsequent solvency reporting to the Reserve Bank.

## 1. Introduction

This *Analytical Note* presents an analysis of trends in solvency position as reported by licensed insurers to the Reserve Bank of New Zealand (“Reserve Bank”) under the Insurance (Prudential Supervision) Act 2010 (“IPSA”) for the five years up to 30 September 2018.

Solvency refers to the ability of an insurer to meet its obligations to policyholders when they fall due. The nature of insurance is that financial outcomes are uncertain – indeed the primary purpose of insurance is to transfer financial risk away from policyholders in return for a premium.

Solvency requirements are important for insurer soundness, and for maintaining public confidence in the sector. This is because minimum requirements are intended to ensure that insurer obligations to policyholders and other creditors will be met in full with a reasonably high probability (but there are no guarantees). Without solvency requirements, some insurers may have chosen to hold less capital with the consequence of a greater risk of their obligations not being met.

Approximately 60 New Zealand licensed insurers are subject to the Reserve Bank’s solvency requirements calculated in accordance with solvency standards. A small number of insurers have an increased solvency requirement to cater for a material risk that the applicable solvency standard does not appropriately reflect. Those insurers have a minimum solvency margin at a specified level above \$0 or a minimum solvency ratio at a specified level above 100%.

Analyses of solvency position take into account licence conditions:

- Actual Solvency Capital (ASC)                      calculated from solvency standard
- Minimum Solvency Capital (MSC)                calculated from solvency standard
- \$ impact of licence condition (LC)            minimum solvency margin, or  
MSC times ( minimum solvency ratio less 100% )
- Solvency Margin Adjusted (SMA)                ASC less ( MSC plus LC )
- Solvency Ratio Adjusted (SRA)                 ASC divided by ( MSC plus LC )

Some insurers have multiple requirements due to their circumstances. For this *Analytical Note*, only the solvency position for each insurer in total is included. Cole & Allott (2016) provides a fuller explanation of the RBNZ solvency requirements including an analysis of the components of solvency requirements.

The other (approximately 30) insurers are exempted from the Reserve Bank's solvency requirements under section 59 of IPSA. Those insurers are subject to the solvency requirements of their home supervisor. For example, branches of Australian insurers are subject to the solvency requirements of Australian Prudential Regulation Authority ("APRA"). The register of licensed insurers in New Zealand<sup>2</sup> indicates section 59 exemptions. Since solvency requirements and reporting vary considerably by jurisdiction, solvency analyses excludes these insurers unless otherwise specified.

Solvency returns are required at each financial year-end and half-year, and these dates vary by insurer. The latest available reporting to 30 September 2018 includes some insurers at 30 September 2018, some at 30 June 2018, and a small number at other dates.

## 2. Distribution of solvency ratio

The distribution of solvency ratio is useful for understanding changes in solvency position across all insurers. In contrast, the aggregate solvency position for all insurers, or for a subgroup of insurers, is heavily weighted to a small number of insurers with large solvency requirements, and therefore can provide an unrepresentative view of insurers more generally.

Figure 1 shows adjusted solvency ratios for the latest available financial year-end or half-year as at each 30 September. The movements are for the one, three and five years ended 30 September 2018. Other than the 0<sup>th</sup> and 100<sup>th</sup> percentiles, rows do not necessarily represent a particular insurer – they may be interpolated figures. A particular row is unlikely to represent the same insurer for different time periods.

During the last five years, there have been some instances of insurers in breach of solvency requirements, with adjusted solvency ratio below (sometimes well below) 100%. In most cases, solvency breaches were quickly resolved, usually by injecting additional capital, and the insurers that did not resolve a solvency breach were closed to new business.

The median for adjusted solvency ratio has fluctuated between 164% and 181%, while the lower quartile has varied between 126% and 137%. On the latest figures, the 5<sup>th</sup> percentile is just 109%, indicating there are several insurers either in breach of their solvency requirements or with very small buffers above the regulatory minimum.

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<sup>2</sup> <https://www.rbnz.govt.nz/regulation-and-supervision/insurers/licensing/register>

Figure 1: Distribution of solvency ratio adjusted for licence conditions

Quartile	Sep 13	Sep 14	Sep 15	Sep 16	Sep 17	Sep 18	Δ 1 yr	Δ 3 yr	Δ 5 yr	Quartile
Lower	126%	137%	133%	135%	135%	133%	( 2%)	0%	7%	Lower
Median	169%	176%	164%	181%	178%	180%	2%	17%	11%	Median
Upper	286%	272%	305%	273%	285%	270%	( 15%)	( 35%)	( 16%)	Upper
Percentile										Percentile
0%	34%	57%	2%	107%	78%	24%	( 54%)	22%	( 10%)	0%
5%	99%	111%	110%	110%	109%	109%	( 0%)	( 1%)	9%	5%
10%	110%	119%	114%	115%	114%	117%	3%	2%	6%	10%
15%	118%	124%	122%	122%	121%	123%	2%	1%	6%	15%
20%	123%	131%	130%	127%	130%	129%	( 1%)	( 1%)	6%	20%
25%	126%	137%	133%	135%	135%	133%	( 2%)	0%	7%	25%
30%	131%	141%	139%	140%	139%	137%	( 1%)	( 1%)	7%	30%
35%	139%	142%	143%	147%	143%	146%	3%	3%	7%	35%
40%	144%	153%	153%	151%	154%	156%	2%	3%	12%	40%
45%	147%	159%	161%	165%	162%	165%	3%	4%	18%	45%
50%	169%	176%	164%	181%	178%	180%	2%	17%	11%	50%
55%	191%	188%	178%	188%	210%	188%	( 22%)	10%	( 3%)	55%
60%	219%	216%	205%	212%	231%	201%	( 31%)	( 4%)	( 18%)	60%
65%	226%	236%	227%	223%	244%	215%	( 29%)	( 13%)	( 12%)	65%
70%	254%	251%	253%	260%	258%	237%	( 21%)	( 16%)	( 18%)	70%
75%	286%	272%	305%	273%	285%	270%	( 15%)	( 35%)	( 16%)	75%
80%	307%	295%	357%	306%	307%	273%	( 34%)	( 84%)	( 34%)	80%
85%	358%	372%	406%	372%	342%	318%	( 24%)	( 88%)	( 40%)	85%
90%	387%	415%	434%	454%	387%	373%	( 14%)	( 61%)	( 14%)	90%
95%	539%	513%	501%	543%	487%	457%	( 29%)	( 43%)	( 81%)	95%
100%	969%	1214%	1128%	750%	624%	626%	2%	( 502%)	( 343%)	100%

Over the past year, insurers' solvency positions have generally decreased as shown by the negative movements in the adjusted solvency ratios for 14 of the selected 21 percentiles. Throughout the last five years, the solvency ratios above the median have generally materially decreased, and the solvency ratios at or below the median have slightly increased.

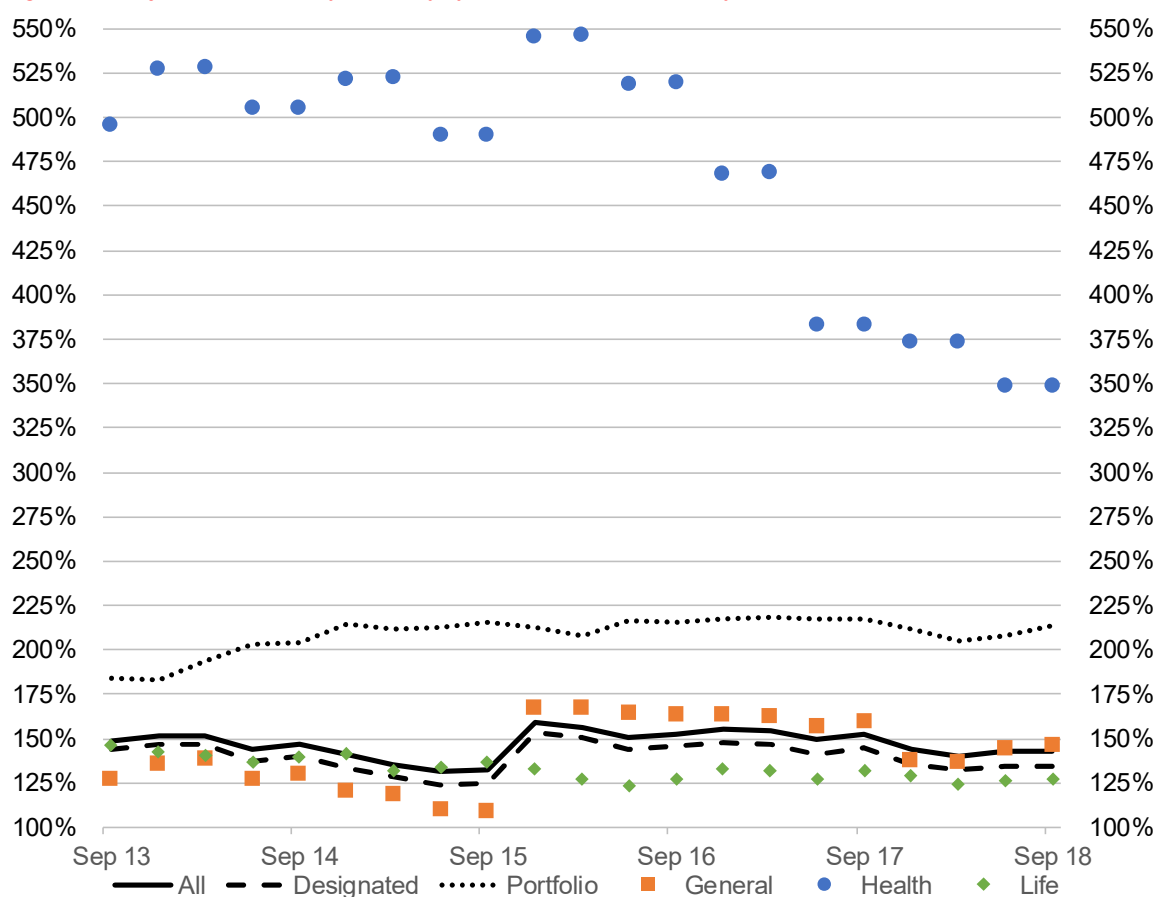
Movements in solvency positions may be much larger than the movements in selected percentiles, which suggest that a decrease in solvency ratio of more than 20% from one year to the next is not rare at individual insurer level. While some of these movements may arise from deliberate actions by the relevant insurer (e.g. one-off payment of a large dividend), in other instances the movement reflects adverse experience or increased risks. In this context, the lower quartile position seems quite low.

### 3. Solvency ratio by type of supervision and by type of insurance

Type of supervision is either 'designated' for the largest approximately 20-25 insurers, or 'portfolio' for the remaining insurers. Type of insurance is the predominant type of insurance - general, health or life. The classifications are at September 2018.

Figure 2 is useful for comparing the relative solvency levels by type of supervision and by type of insurance. Figure 3 provides more detail on the level and movements over the last one, three and five years for the same groupings.

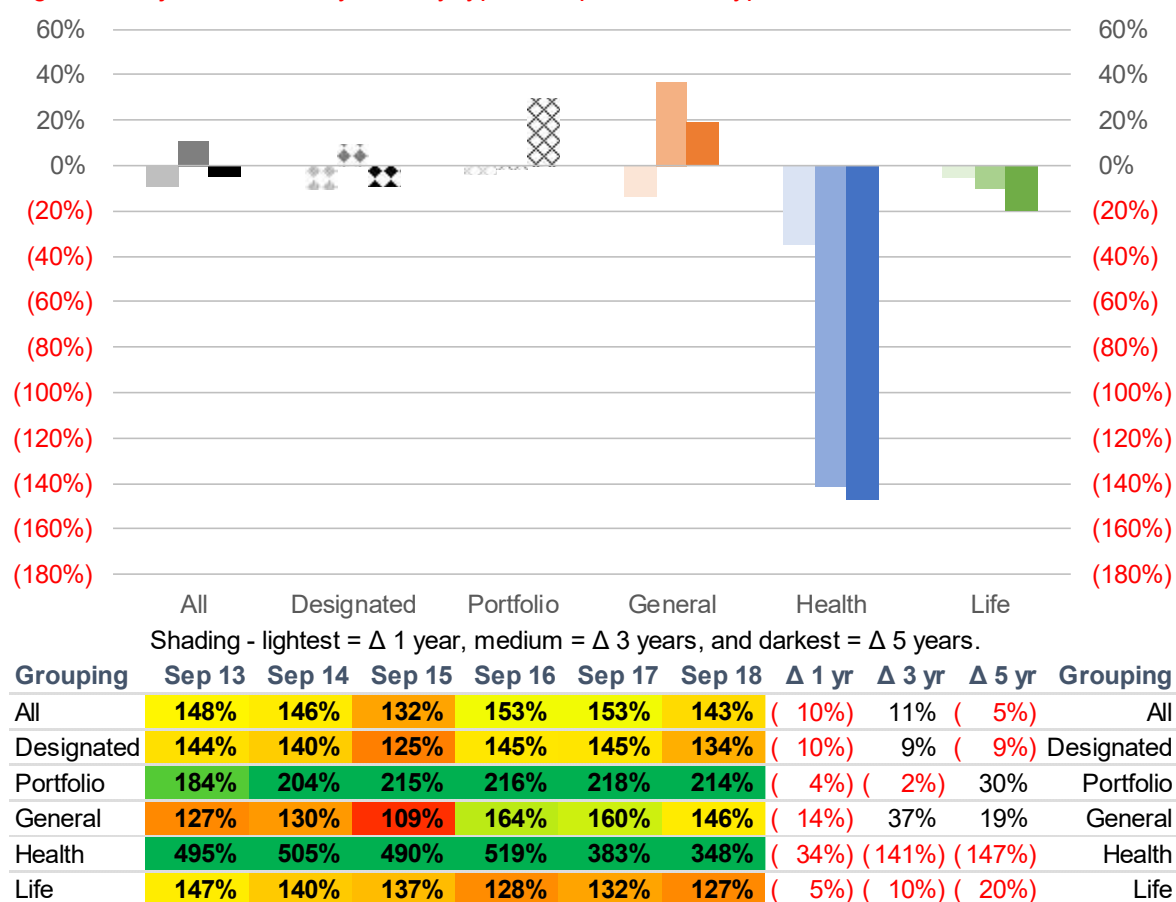
**Figure 2: Adjusted solvency ratio by type of supervision & type of insurance**



The adjusted solvency ratio for all insurers closely follows that for the designated insurers. This makes sense because the weighting is by solvency requirement, which is largest for the largest insurers. Portfolio insurers have materially higher solvency positions than designated insurers – a possible explanation for this is the largest insurers have a stronger focus on return on capital.

By predominant type of insurance, health insurers have by far the highest solvency position, reflecting they are mainly mutual insurers, or owned by a mutual, without well-capitalised parents. The solvency position for general insurers is more volatile than for life insurers. The volatility of the aggregate solvency position for general insurers is mostly due to movements in a small number of general insurers with large solvency requirements – arising from the effects of Canterbury earthquakes, correction of solvency errors, and reserve strengthening.

Figure 3: Adjusted solvency ratio by type of supervision &amp; type of insurance



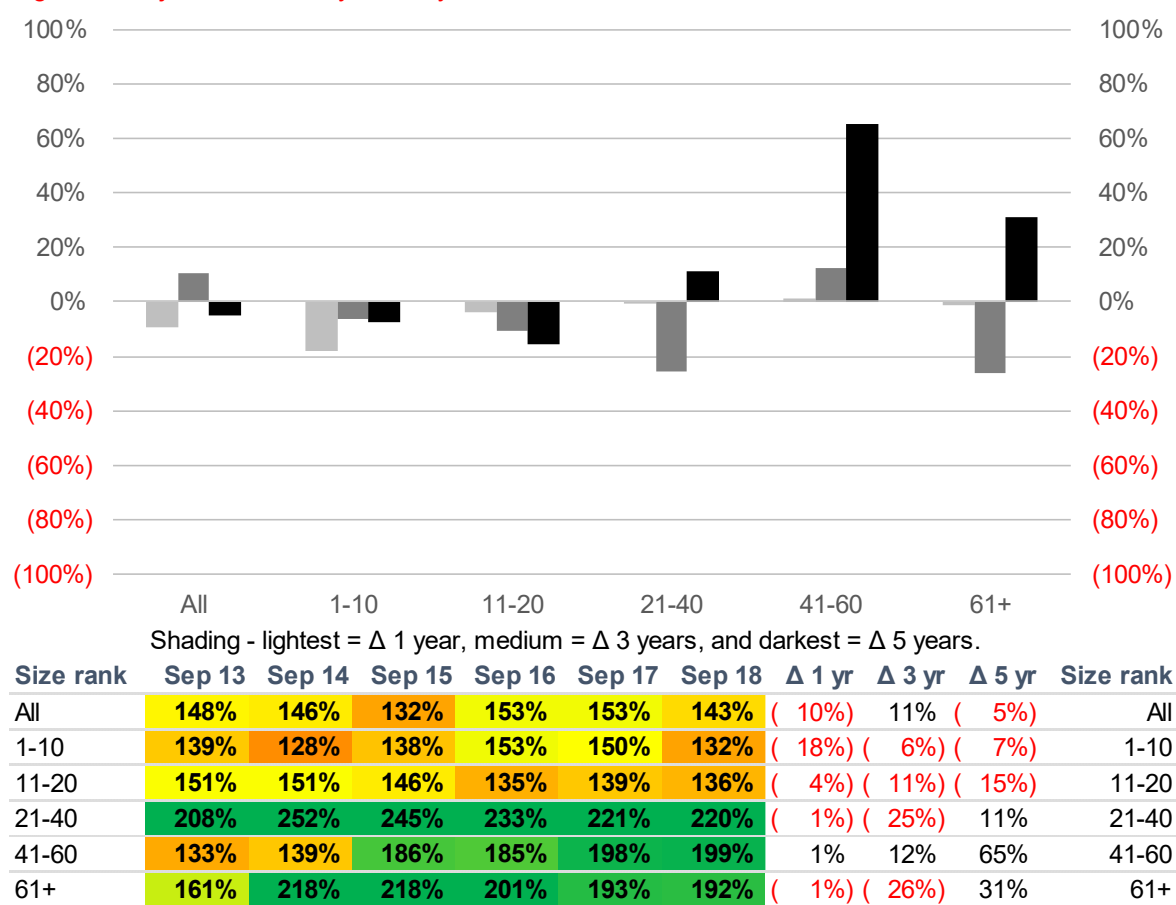
Over the past five years, the adjusted solvency ratio has reduced for designated insurers and increased for portfolio insurers – thus the difference in solvency positions has widened. While the biggest movements in solvency position are for health insurers, in aggregate they still have a higher solvency ratio than other types of insurers even after the significant decrease over the past three years. The solvency position for life insurers has slowly deteriorated over the past five years, despite having a lower solvency ratio than other types of insurers.

#### 4. Solvency ratio by size rank

Size rank for each insurer is based on the latest gross annual premium to September 2018, across all insurers including those exempted from the Reserve Bank's solvency requirements.

The solvency position of larger insurers (ranked 1 to 20) is materially lower than that of smaller and medium-sized insurers (ranked 21 and above). The adjusted solvency ratio for larger insurers (ranked 1 to 20) has been decreasing over the past five years. For the largest insurers (ranked 1 to 10) the large decline in adjusted solvency ratio over the past year more than reversed an increase over the previous four years. The adjusted solvency ratio for smaller and medium-sized insurers (ranked 21 and above) has been increasing over the past five years.

Figure 4: Adjusted solvency ratio by size rank



## 5. Solvency margin by type of supervision and by type of insurance

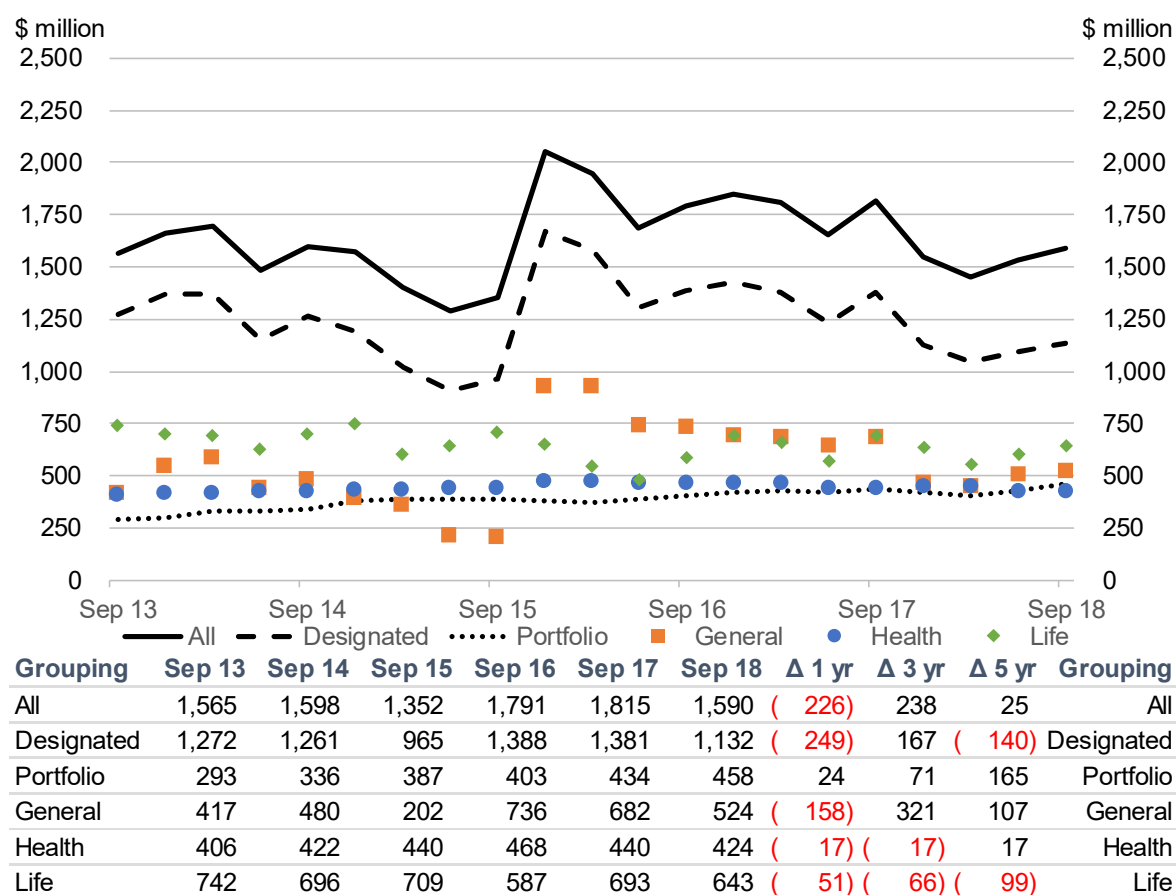
The aggregate solvency margin was \$1.6 billion in excess of licence conditions at 30 September 2018. While this is the same level as 30 September 2013, the aggregate solvency margin was higher during 2016 & 2017.

Figure 5 shows the adjusted solvency margin, i.e. the absolute size of buffer above minimum requirements. Designated insurers account for most of the aggregate solvency margin.

The solvency margin for general insurers is currently materially lower than the previous two years, but higher than in 2015 when it was particularly low for the size of the sector. Solvency margins for health insurers have improved slightly over the last five years. This is in contrast to their solvency ratio, which has materially worsened. This indicates that health insurers in aggregate have increased solvency requirements (mainly due to increased risk-taking), which has been matched by an increase in capital. The solvency margin for life insurers has trended down over the past five years.



Figure 5: Adjusted solvency margin by type of supervision &amp; type of insurance



## 6. Movement in adjusted solvency margin by reason

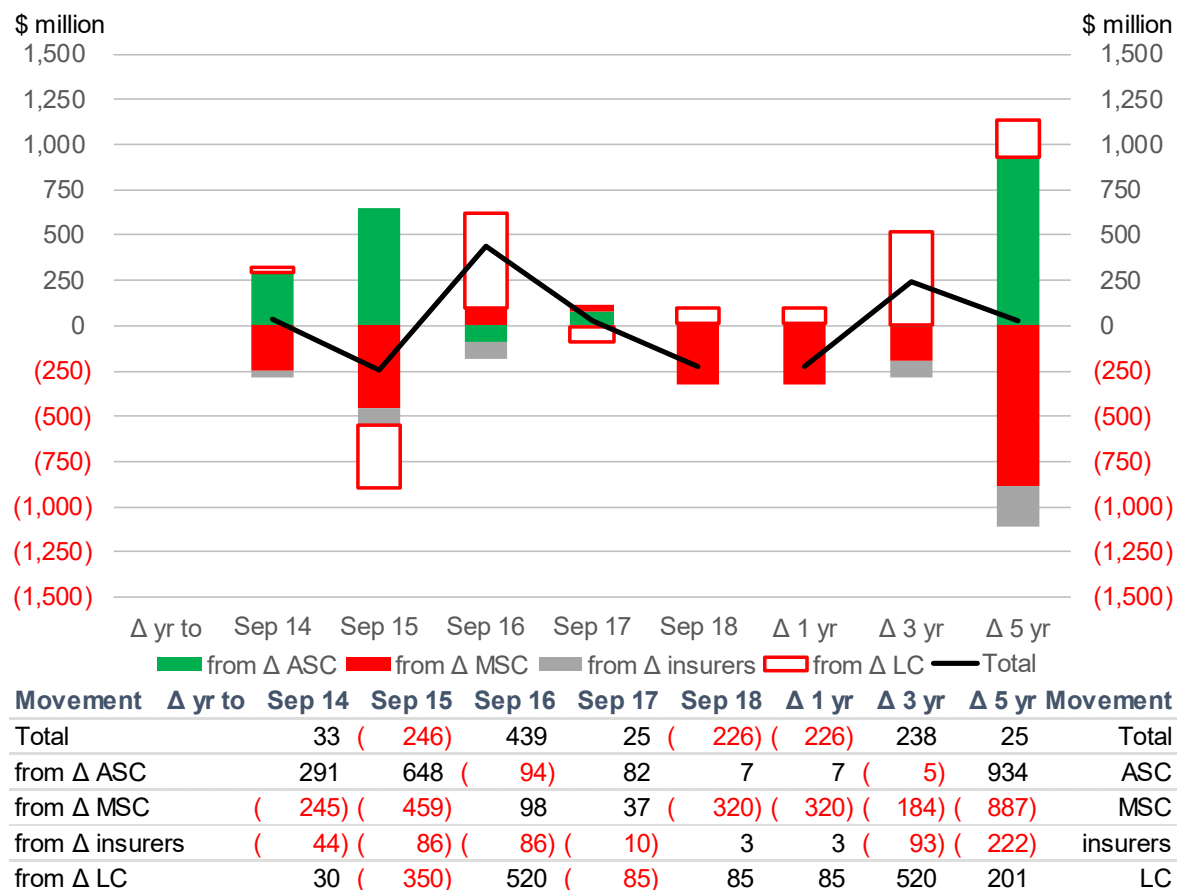
There are four reasons for changes in aggregate solvency margin - movements in Actual Solvency Capital (ASC), Minimum Solvency Capital (MSC) or licence conditions; or due to insurer entry and exit.

Figure 6 shows the movement in adjusted solvency margin year-by-year, and cumulatively over one, three and five years; in total and by reason. A positive figure means solvency margin increases and a negative figure means solvency margin decreases. The annual total movement in adjusted solvency margin has varied between an increase of \$439 million and a decrease of \$246 million.

Change in actual solvency capital reflects retained profits (albeit with a timing complication for dividends), capital injections, and changes in admissible assets. Over the past five years, a significant increase in actual solvency capital acted to increase solvency margins, although this had occurred by 2016.

Change in minimum solvency capital reflects capital risk charges. Over the past five years, a significant increase in minimum solvency capital acted to decrease solvency margins. The cumulative amount for movement in minimum solvency capital is slightly smaller than the cumulative amount for movement in actual solvency capital, although the timing differs.

Figure 6: Movement in adjusted solvency margin by reason



The impact on aggregate solvency margin from insurer entry and exit considers only the solvency margin of new insurers on entry and old insurers on exit. In some cases of group restructures there may be other transactions occurring which also affect aggregate solvency margin, however these impacts are excluded. The net change from insurer entry and exit is a reduction in solvency margin. This is unsurprising, as new insurers tend to be relatively small, while exited insurers have been of various sizes. Group restructures often involve a reduction in total capital and solvency margins.

Changes in licence conditions have increased aggregate adjusted solvency margin over the past five years. The amounts have fluctuated over time, as these conditions are regularly reviewed, and varied as appropriate.

## 7. Solvency ratio for Australian insurers

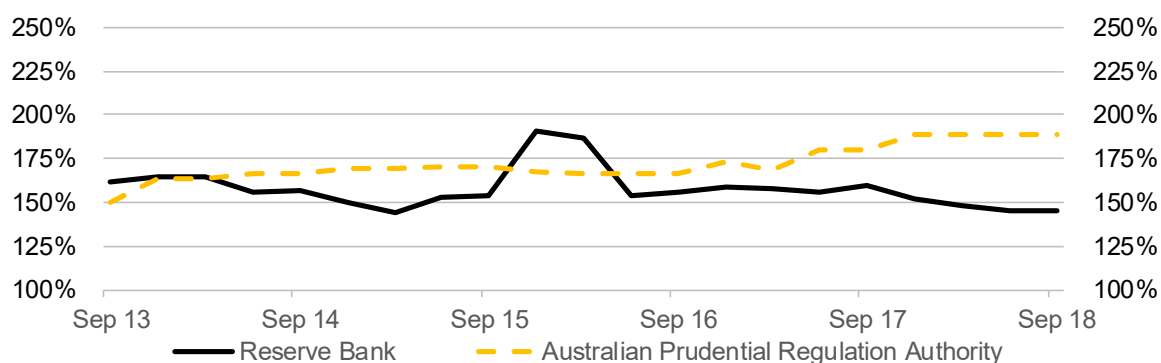
While home solvency requirements are generally not comparable across jurisdictions, APRA's solvency requirements are broadly comparable to the Reserve Bank's solvency requirements. Solvency figures for insurers subject to APRA's requirements are for licensed New Zealand insurers only, i.e. Australian insurers with branches in New Zealand, and may be materially different to the solvency position for all Australian licensed insurers.

Figures 7 and 8 show New Zealand insurers subject to APRA solvency requirements have higher solvency ratios than the insurers subject to Reserve Bank solvency requirements. The Australian solvency ratios have materially increased since 2013, widening the gap. Some of the difference in solvency levels could be due to differences in the mix of insurer circumstances, as well as differences between APRA's and the Reserve Bank's solvency requirements.

Figure 7: Distribution of solvency ratio for insurers by solvency requirements

Reserve Bank										
Quartile	Sep 13	Sep 14	Sep 15	Sep 16	Sep 17	Sep 18	Δ 1 yr	Δ 3 yr	Δ 5 yr	Quartile
Lower	131%	141%	139%	135%	138%	135%	( 3%)	( 3%)	5%	Lower
Median	185%	188%	178%	185%	192%	182%	( 10%)	4%	( 4%)	Median
Upper	291%	285%	310%	280%	287%	271%	( 16%)	( 39%)	( 21%)	Upper
Australian Prudential Regulation Authority										
Quartile	Sep 13	Sep 14	Sep 15	Sep 16	Sep 17	Sep 18	Δ 1 yr	Δ 3 yr	Δ 5 yr	Quartile
Lower	137%	149%	148%	158%	149%	171%	22%	24%	34%	Lower
Median	186%	184%	203%	195%	210%	211%	1%	8%	24%	Median
Upper	233%	243%	248%	267%	327%	330%	4%	82%	97%	Upper

Figure 8: Aggregate solvency ratio for insurers by solvency requirements



## 8. Other comments

Any analysis of solvency position requires careful interpretation whether for all insurers, or for a subset of insurers.

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- A low solvency position does not necessarily indicate a weak insurer, or a high solvency position a strong insurer. This is because solvency requirements are broad-based and do not necessarily fully reflect the circumstances, risks and available mitigants of each insurer.
  - A small number of insurers accounts for a high proportion of the aggregate solvency requirements.
  - Movements in aggregate solvency position are often mostly due to changes in circumstances for a small number of insurers.
  - The downwards trend in solvency position over the past few years appears to be driven by insurers attempting to improve their return on capital through reduced buffers (lower solvency margin and ratio) and taking on increased risks (increased minimum solvency capital), particularly for the largest insurers.
  - Insurers subject to the Reserve Bank's solvency requirements have a materially lower solvency position than Australian insurers licensed in New Zealand, and have the opposite trend – decreasing solvency for the Reserve Bank and increasing solvency for Australian insurers.
  - Some insurers have a solvency ratio that is low relative to annual movements in the solvency ratio that do not appear to be rare across insurers more generally. This includes some large insurers. It is worthy of more analysis, and consideration of possible supervisory and policy responses by the Reserve Bank.
  - Analysis could be useful to understand the size of any hidden buffers (e.g. zeroised negative liabilities for some life insurers) and their effectiveness in mitigating various risks, as well as the extent of errors that materially overstate the solvency position.
  - The Reserve Bank will consider regularly publishing the solvency positions of licensed insurers given the existing solvency disclosure requirements. This would aid market discipline by being easier for stakeholders to find and compare the information across insurers.

## References

Cole, R and Allott, A, (2016), 'Insights from New Zealand solvency returns for the 2015 financial year', Reserve Bank of New Zealand.