
Insurer solvency standards – reducing risk in a risk business

Richard Dean

Significant earthquakes in Christchurch have brought the need for stability in the New Zealand insurance market into sharp focus. The ability of insurance companies to meet claims as they fall due has tremendous potential impact in such circumstances and the need for insurers to hold sufficient capital and other resources for those purposes is more visible in such difficult times. Whether in terms of meeting household claims or those for large businesses, insurance companies have a crucial role to play in rebuilding the lives, communities and economies of those affected.

Given the significant potential impact of financial weakness in the insurance sector, regulation of insurers' financial strength helps to maintain confidence in the sector (a key objective of our prudential role). The Reserve Bank seeks to ensure financial strength by applying solvency standards to insurers carrying on business in New Zealand and these differ depending on the type of insurer.

The key components in assessing the financial stability of an insurer are its solvency, capital adequacy and liquidity. Solvency is a measure of whether an insurer can cover its liabilities. It is important to note here that solvency issues are more likely to arise in relation to unexpected aspects of claims. In principle, the 'expected' aspects of claims are accounted for in the pricing of the premium for the policy.

Capital adequacy is a measure of whether or not an insurer has adequate capital backing (including reinsurance arrangements) to support the assessed risks to which the insurer is exposed. Liquidity is a measure of the insurer's ability to meet its current day-to-day financial obligations. For an insurer this usually means having enough cash readily available to pay current and near-term claims.

For example, life insurance liabilities, which tend to be longer-term than those of non-life insurance, give rise to different capital and liquidity requirements. Claims on life insurance are less frequent and tend to occur much further out into the future than claims on property and motor vehicle insurance that are usually more frequent and over a shorter time horizon.

The overall purpose of solvency standards is to require the insurer to hold enough capital so that, to the required level of probability, the insurer can continue to meet its obligations to its policyholders as they fall due. As insurance is a risk business, the solvency standards require levels of capital that cover not only business as usual claims but also make appropriate provision for unforeseen or catastrophic losses.

Insurer solvency is therefore important at the level of each individual insurer. A stable insurance industry provides confidence for a stable financial environment at both the private and commercial levels, and this stability contributes to the stability, as perceived domestically and internationally, of New Zealand as a place to do business.

1 Solvency exposures that face insurers

Solvency exposures are potentially faced by all insurers, to varying degrees, arising from various categories of risk. These constitute the factors included in the required minimum solvency capital and include the following:

Appropriately calibrated capital charges are applied to each of the components in Table 1 to reflect the inherent risk. (See box 1, overleaf). These capital charges are then incorporated into the calculation of Solvency Margin which is central to the solvency standard (see below).

Detailed aspects of the calculation of certain risks may vary between different insurance sectors (e.g. as between life and non-life insurers). Examples of this are the difference in approach to calculation of insurance risk and asset risk capital charges between life insurance and non-life insurance, and also catastrophe considerations (e.g. earthquake, flood, tsunami for non-life compared to pandemic for life insurance).

Table 1

Insurance risk	This is a combination of underwriting risk and run-off risk. Underwriting risk is the risk to the licensed insurer of writing unprofitable insurance business. In other words, the risk that premiums charged are inadequate for the risks assumed. To some extent this also links to the exposure of the licensed insurer to operational risk. Run-off risk is the risk to the licensed insurer of inadequate provision being made for outstanding claim liabilities, i.e. inadequate reserving for claims.
Catastrophe risk	This is the insurer's potential exposure to extreme events (e.g. earthquake, flooding, pandemic, etc).
Asset risk	This is the exposure of the licensed insurer to losses on investment assets. It includes credit risk in respect of the relevant assets as well as asset concentration risk.
Foreign currency risk	This is the risk of losses in asset values or increases in liabilities due to foreign currency movements affecting the value of assets or liabilities denominated in foreign currency, and the mismatching of assets and liabilities denominated in foreign currency.
Interest rate risk	This is the risk of losses in asset values or increases in liabilities arising from the mismatching of assets and liabilities in terms of interest rates and durations.
Related party exposures	This is the risk of losses due to financial exposures to related parties.
Reinsurance recovery credit risk	This is the exposure of the licensed insurer to losses arising from failure to fully recover on reinsurance contracts, including losses due to reinsurer failure and contract dispute.

Box 1

Application of capital charges within Reserve Bank solvency standards

Insurance Risk Capital Charge:

- Non-life insurance: Factor-based charges applied to Premium Liabilities and Outstanding Claims Liabilities across identified classes of insurance business.

- Life insurance: The greater of current termination values or solvency liabilities for each related product group.

Catastrophe Risk Capital Charge:

- Non-life insurance: The net cost (after reinsurance) to the insurer of extreme events (earthquake or other) calibrated to a specified loss return period. (see later discussion).

- Life insurance: The net cost (after reinsurance) to the insurer of a pandemic event or other extreme event.

Asset Risk Capital Charge:

- Non-life insurance: Table-based factors applied to total values in identified asset classes (refer below).

Foreign Currency Risk Capital Charge: A fixed percentage charge applied to the net open foreign exchange position in each currency

Interest Rate Risk Capital Charge: A charge based on a fixed percentage revaluation shock applied to fixed interest-bearing assets and liabilities.

Related Party Exposures: In most cases, related party exposures are subject to a 100 percent asset charge, i.e. they are disallowed from capital calculations.

Reinsurance Recovery Risk Capital Charge: A factor-based charge, dependent on the financial strength rating of each reinsurer, applied to the reinsurance recovery asset in respect of each reinsurer.

2 The structure of Reserve Bank solvency standards

In developing its solvency standards, the Reserve Bank has sought to learn from international experience by adapting existing international best practices to its own market conditions and structure.

The Reserve Bank has the power under the Act to issue solvency standards that require an insurer to, at all times, “maintain a solvency margin in accordance with an applicable solvency standard (including requiring the insurer to maintain a minimum amount of capital in accordance with the standard)”.

“Solvency Margin” can be expressed as Actual Solvency Capital minus Minimum Solvency Capital (as a dollar figure) and must always be positive.

Actual Solvency Capital is defined in a very similar manner to the Reserve Bank’s definition of capital used in other New Zealand financial sectors (i.e. balance sheet capital less prudential adjustments to remove elements that do not qualify as capital for prudential purposes). Broadly speaking, to qualify for prudential purposes a capital instrument must be of a permanent nature and freely available to meet losses and would include, for example, ordinary shares, perpetual non-cumulative preference shares and reserves, with deductions from capital including goodwill, deferred tax assets and related party investments.

Unlike the banking sector, capital is a single pool, without separate tiers, and this approach generally aligns with the Reserve Bank’s assessment of capital for Non Bank Deposit Takers.

Minimum Solvency Capital is the sum of all components in Table 1.

Minimum Solvency Capital is itself subject to a minimum required amount. For non-life insurers this is set at \$3 million, for captive insurers at \$1 million, and for life insurers at \$5 million. This minimum required amount is only expected to apply to insurers at the smaller end of the market as the risk-based capital requirement of the solvency standards will generally drive a Minimum Solvency Capital requirement well in excess of the stated minimum amounts. (Note that there is an exemption from minimum capital requirements for very small insurers, i.e. those whose annual premium income is less than \$1.5 million).

3 Catastrophe risk capital charge for non-life insurance

Following the earthquakes in Christchurch there has been considerable interest in the regulatory treatment of catastrophe risk protection for non-life insurers. In the Reserve Bank solvency standards the catastrophe risk capital charge is defined as “the net cost (after reinsurance) to the insurer of extreme events (e.g. earthquake or other) calibrated to a specified loss return period”. This means that the insurer must have protection, either by way of capital reserves or reinsurance, to cover its liability under insurance contracts for losses to the required level of severity that result from catastrophic events (e.g. earthquake). The higher the amount of reinsurance carried by the insurer, the lower the requirement for capital to be reserved against such losses, and vice versa. For most insurers this means that they purchase catastrophe reinsurance to significant levels in order to protect their underlying capital position in the event of catastrophic losses.

The variable in this situation is the calibration of the level of losses to which insurers are required to protect themselves, and this level is established within the solvency standard. The overall calibration of the non-catastrophe elements of the solvency standard is to cover losses calibrated to a 1 in 200 year loss return period, i.e. a 99.5 percent probability of sufficiency. The solvency standard requirement for non-earthquake catastrophe (e.g. from flood or other perils) is

set at 1 in 250 years, or 99.6% probability of sufficiency.

Earthquake risk is, however, a well-established differentiated consideration in New Zealand. For many years, insurers have taken comparatively high levels of reinsurance protection against catastrophic losses. In this context, the industry-recognised ‘benchmark’ event for the calculation of earthquake liabilities is a major earthquake affecting Wellington, which is typically calibrated in a range between 1 in 600 – 1 in 800 years. By comparison, the recent Christchurch earthquakes have been assessed at significantly more than a 1 in 1000 year event, with the exact return period unknown at this point.

There is no direct relationship between the loss return period and the Richter scale magnitude, or any other measure of physical severity, of an earthquake. A 7.4 event in Wellington may be more or less expensive than a 6.3 event in Christchurch for particular insurers: it depends on a number of factors including the geographical risk concentration of their insurance portfolio. A full explanation of this complex relationship is beyond the scope of this article, but this is why the catastrophe risk capital requirement is calibrated to severity of insurance losses rather than magnitude of earthquake however measured.

Insurer responses to a Quantitative Impact Survey and industry consultation on the catastrophe risk calibration indicated that for their own risk management purposes, many New Zealand non-life insurers, already calibrate their catastrophe risk coverage (reinsurance plus capital) to at least a 1 in 1,000 years loss return period in terms of New Zealand dollars (under previously existing reinsurance premiums and terms) – albeit that for many with Australian ownership this calibration level is driven by APRA’s 1 in 250 years requirement.

Other considerations taken into account in the calibration of the catastrophe risk capital charge include reinsurance costs (which would be passed through to policyholders) and the affordability of insurance to policyholders, the general willingness of reinsurers to remain involved in the New Zealand market, the availability of reinsurance to the levels required, the artificial threshold that solvency standards could potentially set for possible government intervention in

a distressed market following a catastrophic event, and the regulatory position taken by other relevant jurisdictions in respect of catastrophe risk protection.

We decided on principle that, where insurance is in place, the cost of major catastrophes is optimally born by reinsurance flows – in effect paid for by insured property owners over a long catastrophe-free period – as opposed to the alternatives: the unpaid insurance claimant or the taxpayer. This is predicated on the assumption that reinsurance to the required levels will be available to insurers. In practice this means that we exceed the actual or implied catastrophe risk calibration of other countries.

The Canterbury earthquakes have also underlined how important it is to the country, the economy, the taxpayer and the financial system that insurance monies are available to meet all valid claims and enable a rebuild to happen – in other words it is desirable to set requirements for catastrophe coverage at a more conservative level than for other risks: insurer failures are rare but the worst time for them to happen is when the country is facing a major rebuilding programme and government finances are more stretched after a major catastrophe.

Catastrophe Risk Capital Charge – the Outcome

Having taken all the factors into account, we have set the Catastrophe Risk Capital Charge as the projected net cost (after reinsurance recoverable amounts) of insurance losses faced by an insurer in the event of a catastrophe situation, calibrated to minimum loss return periods as noted below, including any gap or shortfall in the reinsurance cover, plus the cost (if any) of one reinstatement of the full catastrophe reinsurance programme.

In respect of earthquake, the standard is calibrated to a 1 in 1,000 years requirement. This will be phased in over time, with a limitation of 1 in 500 years until September 2015 and then moved upwards to 1 in 1,000 years during 2016–17.

Insurers whose catastrophe risk coverage (reinsurance plus capital) already exceeds the required levels may not reduce their protection below its current level unless that level is above the ultimate target figure of 1 in 1,000 years loss return period.

In respect of non-earthquake events, the standard is calibrated to a 1 in 250 years requirement.

However, the current period is one of significant uncertainty for the New Zealand insurance market, hence the progressive phase-in, over a period to September 2016, of the new standard towards its ultimate intended level of 1 in 1,000 years. This should enable the new “normal” market and seismic conditions to emerge as a more stable context for further decisions in respect of this measure.

The Reserve Bank will continue to monitor developments and reserves the right to reconsider its approach in the context of any further significant factors that emerge.

4 Other matters contained in Reserve Bank solvency standards

The Reserve Bank solvency standards also detail a number of obligations on the licensed insurer; including the appointment of an actuary; provision of returns to the Reserve Bank and various other disclosure requirements in respect of its financial position. There are also several obligations set for the appointed actuary, most importantly to produce the insurer’s solvency calculations to the required standard. This allows policy holders and regulators alike to take comfort from the output of the solvency calculations.

5 Market impact of solvency standards

The implementation phase of the Act is currently well under way, with all insurers required to have a licence (whether a provisional licence or full licence) by 7 March 2012. Full licensing is required for all insurers by 7 September 2013, which is three years following enactment of the Act.

The transitional provisions of the Act allow for a staged path for each insurer toward full compliance, with conditions of provisional licences setting the extent to which, and the dates by which, full compliance must be achieved. The application of solvency standards is included within the scope of transitional provisions.

There has been previously no legislated solvency standard in place for non-life insurance, and only a voluntary and non-legislated standard for life insurance. The risk-based approach of the Reserve Bank solvency standards is likely to increase the capital requirement on most insurers carrying on insurance business in the New Zealand market. The extent of this impact has been tested via consultation with industry and a Quantitative Impact Survey, and the results from these exercises have informed the final solvency standards.

Recent catastrophic events have demonstrated the need for financial strength in the insurance industry. The increased capital requirements inherent in the Reserve Bank solvency standards are intended to provide reassurance to observers, both within New Zealand and internationally, of the strength of the New Zealand insurance industry.