

Setting a smarter solvency target

Using the assets to support the underwriting



November 2015

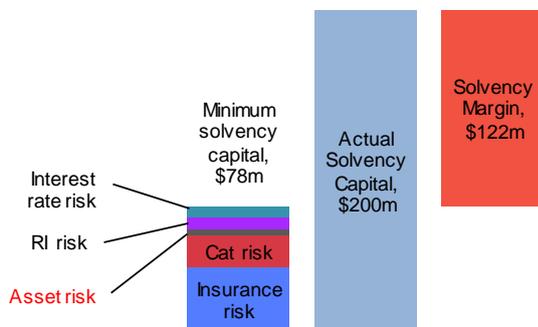
Plain old cash and bonds

New Zealand insurers have traditionally been somewhat boring when it comes to investing their assets. Few have dared to venture beyond the basics of cash and short term sovereign debt. But in today's low interest environment is this the best use of our shareholders' or policyholders' funds?

Solvency requirements

Some would argue that the RBNZ Solvency Standard tends to steer us away from more exciting investments. However, a contrarian view is that the Standard simply prompts us to think more carefully about where we invest our funds. A well thought out asset portfolio can act as a buffer to smooth the bumps in our solvency margin from underwriting activity whilst increasing our return on capital.

Let's look at the solvency for a conservative medium-large general insurer. Our example insurer writes \$250 million GWP, has a minimum capital requirement of \$78 million, and chooses to hold actual solvency capital of \$200 million – a solvency ratio of 2.56. A breakdown is shown below.



Asset risk capital charge

Let's take a closer look at the asset risk component of the minimum solvency requirement. The RBNZ requires us to hold capital equal to a proportion of our assets as per the table below.

Cash and sovereign debt	0.5%
AA fixed interest < 1 year	1%
AA fixed interest > 1 year	2%
A fixed interest	4%
BBB fixed interest	6%
Unrated local authority debt	8%
Other fixed interest	15%
Listed equity and property	25%
Unlisted equity	35%

Clearly, putting all of our funds into conservative assets results in the highest solvency margin. But how does that fit within our risk appetite? Say we have a target solvency ratio of 1.8, and holding 100% government bonds results in a ratio of 2.56, well above our target. What are our options?

- 1) Return some funds to our shareholders or policyholders
- 2) Save it for a rainy day
- 3) Invest in some different asset classes

Option 1 leaves us in a difficult position if we encounter some underwriting volatility and take a hit to our solvency margin. What can we do to improve our solvency position, short of calling upon our shareholders? How would rating agencies and the RBNZ respond to a philosophy that we return capital to shareholders, only to ask for it back if we encounter some volatility?

Option 2 hardly seems like an efficient use of capital. So let's look at Option 3.

Risk appetite

A typical headline risk appetite statement might read something like:

We will accept up to a x% probability of breaching regulatory solvency over the next 12 months.

Many insurers will then attempt to convert this statement into a target solvency ratio. However, trying to summarise your risk appetite statement as a single solvency ratio is problematic.

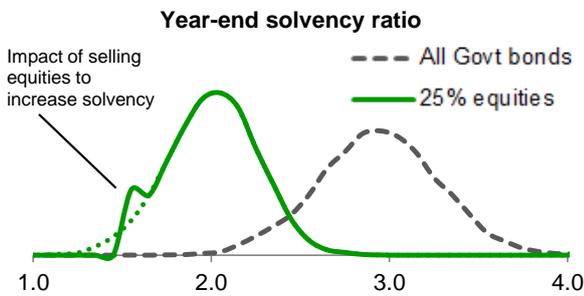
Take our conservative insurer with a solvency ratio of 2.56. Moving a quarter of our sovereign debt assets into equities will reduce the solvency ratio to 1.74; by doing so we have introduced investment volatility into our P&L. But on the other hand, we now have a mechanism with which we can adjust our solvency ratio if required. The security of our capital position is not immediately obvious based on the solvency ratio alone - in fact it can be almost misleading.

A good risk management programme will have predefined triggers for various management actions. For example, we have a target solvency ratio of 1.8 but we may be happy with a ratio of between 1.5 and 2.5, using a variety of corrective actions to remain within this range.

A tale of two solvency ratios

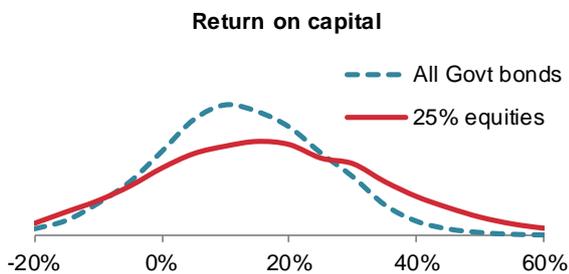
Where will our solvency ratio be one year from now? Say our insurer keeps all their assets in cash and sovereign debt (the 'save it for a rainy day' option). We start the year with a solvency ratio of 2.56. The dashed line in the figure below illustrates a potential range of year-end solvency figures. Solvency ratio movements will in this case be principally a function of our underwriting result.

Alternatively, let's say we start the year by shifting a quarter of our assets into equities. This immediately reduces our solvency ratio to 1.74 but gives us some flexibility; if the ratio falls below a trigger of 1.6 we can sell equities to pull the ratio back up to a more desirable level. The solid line in the figure below illustrates where our solvency ratio might be by the end of the year. Clearly the solvency ratio is lowered by holding equities, but the distribution of outcomes (notably the downside) is tightened.



Return on capital

So why increase our exposure to equities? The answer lies in our potentially higher return on capital. The chart below illustrates how we have significantly increased our upside potential for a minimal increase in downside potential. The chart below is based on a 12 month horizon, but the effect is even greater if we project into the longer term.

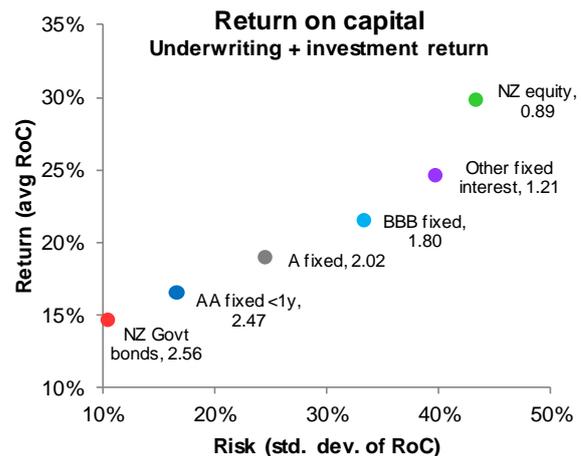


Other asset options

Equities represent one end of the spectrum – fairly volatile, though highly liquid if they're listed. There are countless other choices available to an insurer (eg NZ corporate bonds, listed/unlisted property, global bonds), all with varying degrees of market, credit, and currency exposure. For each asset class questions arise such as:

- How do the assets meet our liquidity needs?
- Are investment returns correlated to our underwriting performance in any way?
- What are the implications for foreign currency and interest rate risk charges?
- How does the investment sit with the objectives of our parent/shareholders?

The objective is then to establish your risk appetite and choose a portfolio that maximises your return on capital within set tolerances. Below we illustrate the extreme scenario of moving 100% of our assets into a single class. The resulting solvency ratios are given.



In our hypothetical example NZ equities represent an attractive risk/return trade-off, although too large a holding will hurt our solvency ratio. Cash and short term sovereign debt sit at the safe end of the risk-return picture, but these alone are rarely the optimal investment choice for an insurer. A board of directors will want to ensure that management are making the most of their shareholders' capital. Or, in the case of a mutual, that capital is put to use in the best long term interests of policyholders.

ABOUT MELVILLE JESSUP WEAVER

Melville Jessup Weaver is a New Zealand firm of consulting actuaries. The firm was established in 1992 and has offices in Auckland and Wellington.

The firm is affiliated to Towers Watson, a global professional services firm that helps organisations around the world optimise performance through effective people, risk and financial management. Towers Watson has offices in 25 countries and the business covers human resources services and reinsurance.

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