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[APRA regulation]

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LAGIC: Optimising your investment strategy

APRA's new capital standards for general insurers are expected to increase minimum capital levels across the market.

This d'finitive considers how an insurer can optimise its investment strategy under LAGIC. It looks at the interactions between investment strategy, regulatory capital requirement and return on risk-based capital.

Investment Strategy: Capital Implications

The complexity of the new risk charges makes it harder to identify the optimal investment approach.

We have examined the implications of the LAGIC framework for investment strategy. These include:

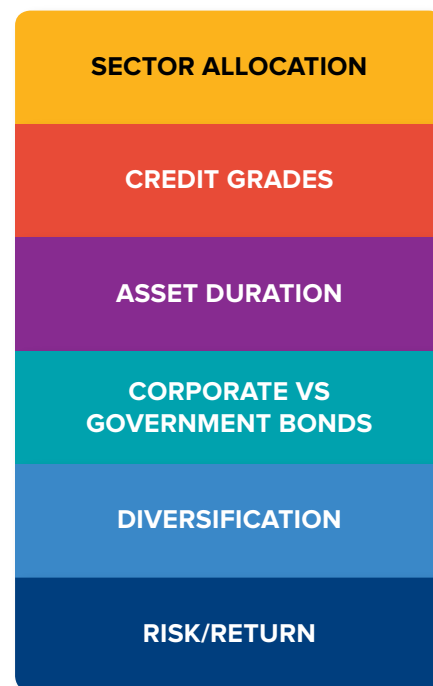
- >> Investing in assets with shorter duration than the liabilities can reduce the asset risk charges
- >> The relative attractiveness of investment grade corporate bonds has increased
- >> Small equity holdings can continue to add value through diversification.

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Investment strategy



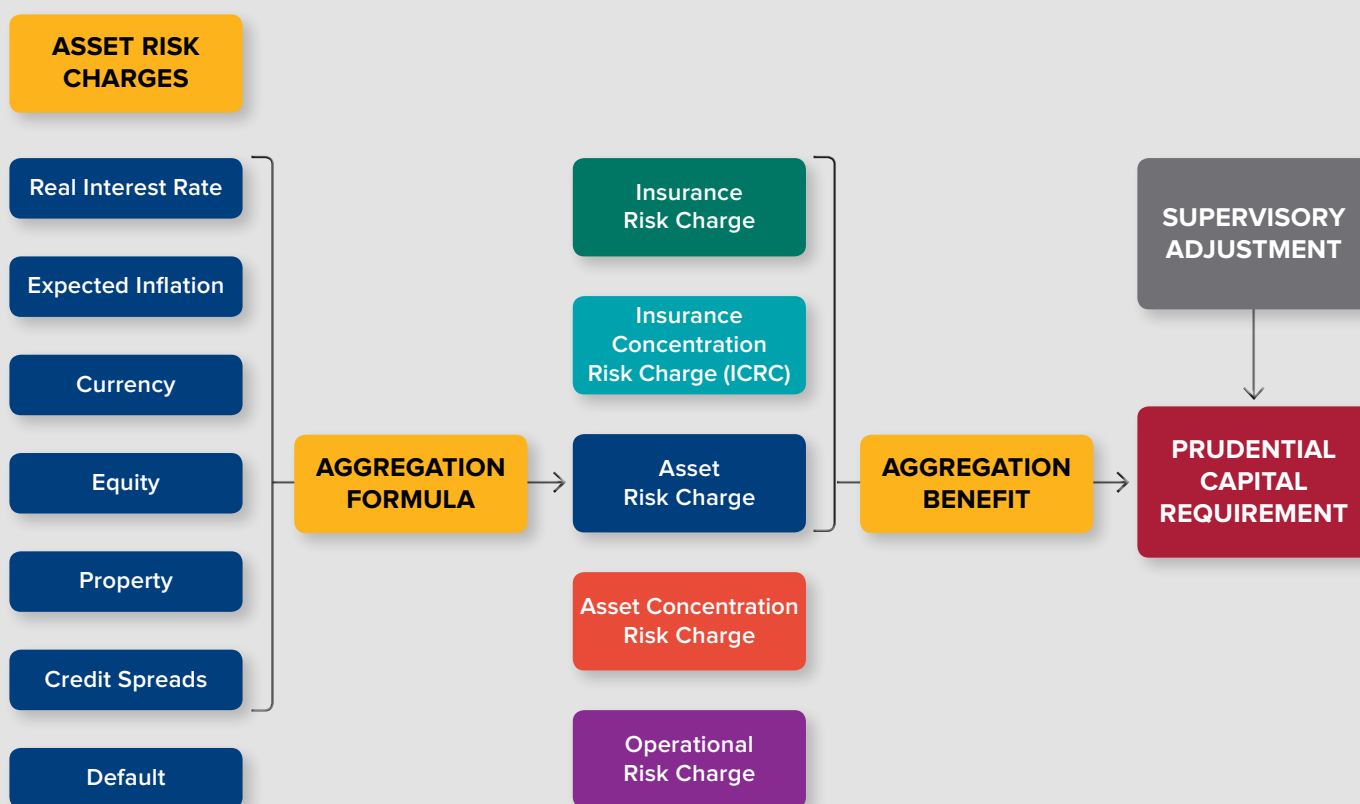
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Capital charges are more complex and more risk-sensitive under LAGIC.

LAGIC Risk Charges

The diagram below summarises the new risk charge calculation. The asset risk charges (on the left) are assessed using seven 'asset stress' modules; an aggregation formula allows for risk diversification within the asset portfolio.

The Prudential Capital Requirement (PCR) combines the total Asset Risk Charge with other risk charges. This step also allows for diversification of risk, in this case between asset and insurance risks.



The investment strategy which optimises capital charges will vary by insurer.

The new asset risk charge calculation is more complex than the old approach, which applied a fixed percentage charge to each asset type. The revised asset charge is more risk sensitive.

The changes in the risk charge calculation affect the relative attractiveness of different investment types. However, the complexity of the new risk charges makes it difficult to identify these effects: the relationship between asset value and capital requirement is no longer linear.

The impact of changes in investment strategy may also vary considerably from insurer to insurer. A different business mix and plan will mean different insurance risk charges, which interact with the asset risk charges via the aggregation elements.

Impact of Investment Strategy

In what follows we demonstrate some of the impacts on PCR of changes in an insurer's investment strategy. We assume a diversified insurer, with a mix of short-tail property and long-tail liability insurance business. Impacts will vary by insurer, and the findings below are therefore indicative only.

Asset Duration

LAGIC effectively imposes a duration-based risk charge. Under the old capital framework duration matching – or mismatching – had no capital implications. The impact under LAGIC occurs via the real interest rate and expected inflation modules; their net impact is a charge linked to the difference between the invested asset duration and the liability duration.

Figure 1 – Impact of Asset Duration on Risk Charges and CAM

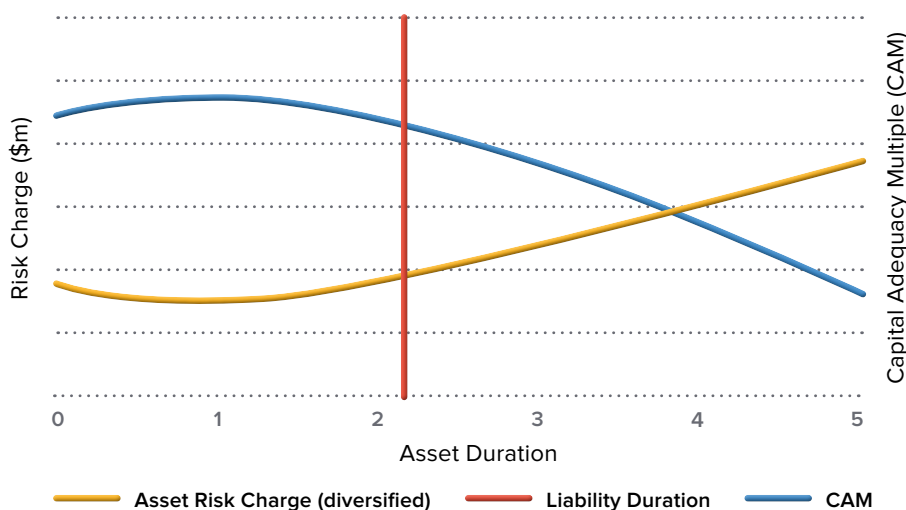


Figure 1 shows that for asset durations longer than the liability duration, the asset risk charge increases with asset duration. Where the asset duration is materially longer than the liability duration, there is a significant capital charge penalty.

The optimal duration strategy – from the perspective of minimising the capital requirement, or maximising the CAM – is to invest in assets with duration less than the liability duration. This gives maximum diversification between the real interest and inflation risk charge components.

In Figure 1, the portfolio generating the highest CAM has an asset duration of about half the liability duration. However, this finding relies on assuming nominal risk free rates of 5% to 6% per annum:

- >> When interest rates are higher than this, the optimal asset duration would be closer to (but still less than) the duration of liabilities
- >> In a low interest rate environment, the asset duration generating the maximum CAM is closer to zero.

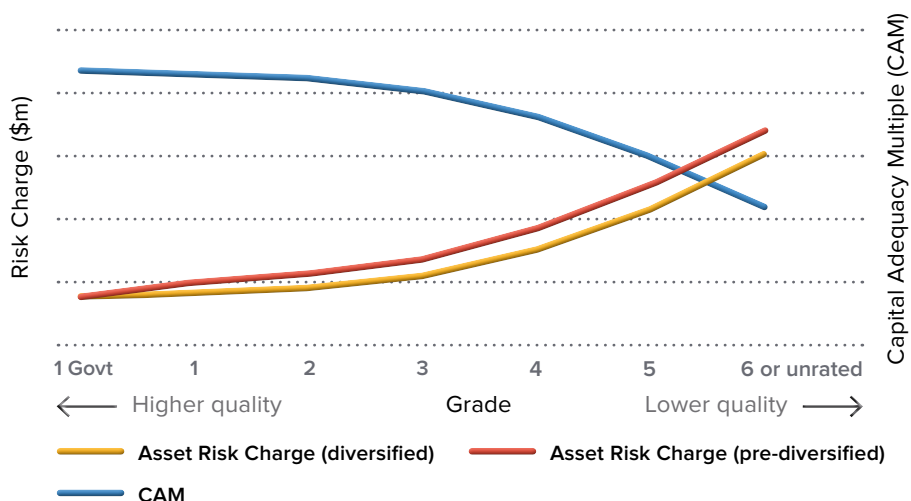
The optimal duration strategy is to invest in assets with shorter duration than the liabilities.

Investment grade corporate bonds are likely to be more attractive under LAGIC.

Credit Grade of Assets

Credit-related risk charges under LAGIC are broadly similar in magnitude to the previous framework. However, the new allowance for diversification means insurers can take small amounts of credit risk without needing to hold materially higher capital. Because of this, investment grade corporate bond holdings – grade 3 or better – are likely to become a more attractive asset type under LAGIC.

Figure 2 – Impact of Credit Grade of Assets on Risk Charges and CAM



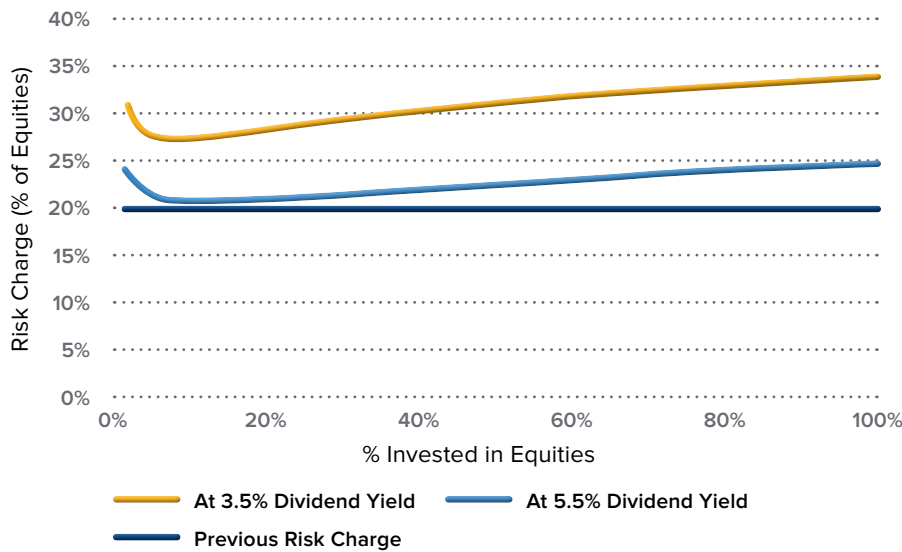
There is a significant PCR penalty for holding lower quality investments.

The risk charge (see Figure 2) is higher for assets with lower quality credit grades. The charges for grades 1 to 3 – after allowance for diversification – are fairly similar, so assets with these grades are roughly equally attractive from a capital charge perspective. For grades 4 to 6 the risk charges increase steeply, because the impact of diversification (the gap between the red and yellow lines) remains broadly constant. This means there is a significant PCR penalty for holding lower quality investments.

Investing in Equities

The new equity risk charges are more complex, and generally higher, than the previous charges. Figure 3 shows the risk charges as a percentage of the value of equities. Under LAGIC the charges decrease as the dividend yield increases.

Figure 3 – Equity Risk Charges

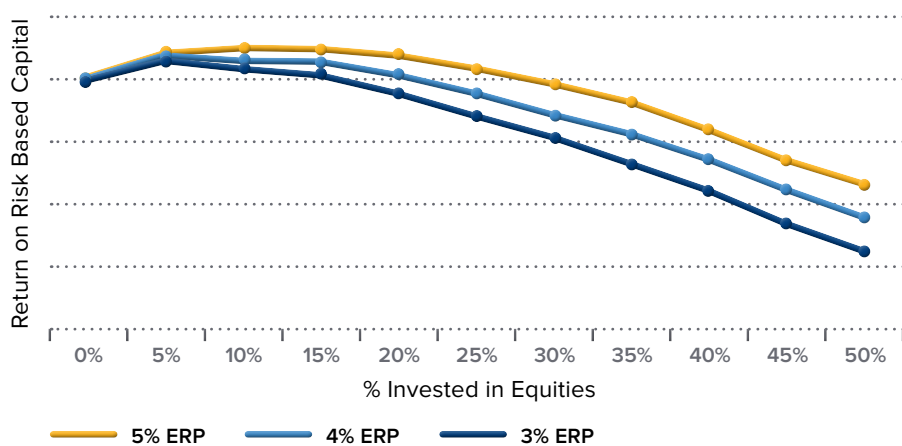


As the proportion of equities rises, the risk charges increase and the PCR becomes more dominated by the equity-related charges. The increase at higher equity proportions reflects the diminishing effect of diversification.

While the capital charges vary as the proportion of equities changes, so does the expected rates of investment return. The rate of return above the risk free rate is referred to as the Equity Risk Premium (ERP).

Figure 4 illustrates the dynamic between capital and return for a range of equity proportions and different ERP levels.

Figure 4 – Return on Risk Based Capital vs Equity Proportion



The return on risk-based capital is at a peak for equity proportions in the range 5% to 10% (depending on the ERP). The return drops off steeply as the equity proportion increases; this largely reflects the limited ability to diversify the risk associated with larger equity holdings.

The equity investments of the general insurance industry have diminished considerably in the wake of the GFC. Figure 4 suggests that insurers can still benefit from small equity holdings, with allocations of 5-10% maximising return on risk-based capital.

Equity proportions of 5-10% maximise returns on risk-based capital.

Conduct your asset risk stress tests with Finity's new user-friendly Excel template. To find out more, please contact Brett Riley on 61 2 8252 3382

Finity Consulting

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This article is based on Finity's current understanding of APRA's framework. It does not constitute either actuarial or investment advice. While Finity has taken reasonable care in compiling the information presented, Finity does not warrant that the information is correct. We refer the reader to APRA's website (www.apra.gov.au) for further detail, or contact one of our consultants.

- Australia & New Zealand Insurance Industry Award 'Service Provider of the Year' 2006, 2007, 2008, 2009 and 2011.
- Australian Insurance Industry Awards - Inaugural Inductee into the Hall of Fame 2012.

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