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SAA Framework under HKRBC

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Background and upcoming thought leadership

In 2022, Deloitte Asia Pacific released a two-part series titled "Weather the Storm: The Latest Insurance Solvency Capital Updates across Asia Pacific". Volume two of the series, "Are You Business-Ready for the New Solvency Regime?", focused on the operationalization challenges brought by a new solvency regime and discussed possible solutions to these challenges.

Our next series of thought leadership focuses on the Hong Kong Risk-Based Capital (HKRBC) regime which will become effective in the second half of 2024. As insurers prepare for the new regime and those insurers who have early adopted seek to further operationalize HKRBC, there will be a greater focus on topics such as Strategic Asset Allocation (SAA), ALM and Capital Optimization, Pillar 3 reporting to name a few.

This article on HKRBC is on the topic of SAA. The importance of the SAA in creating long-term value for both policyholders and shareholders is a topic that has received extensive recognition among insurance companies and regulators. In addition, academic research[1] supports the conclusion that funds that invest using a SAA have consistently generated higher median returns with less risk compared to funds that invest using a tactical asset allocation (TAA).

Given these premises, it is not unexpected that SAA features in the regulatory principles of the HKRBC. The new regulations require insurers to consider the SAA through three lenses – return, risk and capital requirements, the latter representing a new lens for the SAA in the context of the Hong Kong insurance regulations. This represents a fundamental shift from how insurers derived the SAA under the Insurance Ordinance that regulated this area before HKRBC and where the implicit principle was more of a return optimization strategy.

Deloitte believes that before setting the SAA, insurers need to have a robust SAA framework in place to ensure there is proper governance and ongoing management around SAA decisions. The benefit of this approach is a seamless and less costly compliance with HKRBC, which should also deliver a closer alignment with the insurer's investment management processes.

[1] Cited in Ibbotson and Kaplan's study (2000), Setting the Record Straight on Asset Allocation
(David Larrabee, February 2012), Vanguard investment perspective entitled "Tactical versus strategic asset allocation" (November 2022)

What should the SAA framework cover?

The SAA framework can be established through a four-step process:

1. Document all product lines that require a SAA

2. Define the SAA methodology, process and review cycle

3. Define the documentation to be produced as part of a SAA review

4. Set the governance process for developing and maintaining the SAA

Step 1 – Product lines requiring a SAA

Product details, marketing literature and past communication to policyholders help determine whether SAAs are required. A rule of thumb to determine whether an SAA is required is when products are backed by investments made in a number of asset classes for which the insurer has responsibility towards the policyholders to deliver a financial return. Product lines that offer to the policyholder the option to change the risk exposures using a "life-styling" policy construct enabling the policyholder to switch from one asset class to another will generally not require a SAA because there is no asset allocation decisions required by the insurer, who has more of an executory obligation towards the policyholder rather than an obligation to deliver a particular long-term financial return.

Step 2 – Define the SAA methodology, process and review cycle

A well-defined methodology ensures SAAs remain appropriate, are consistent with the insurer's investment philosophy, comply with regulation and importantly meet policyholders' current and future needs as advertised in the product documentation provided at outset.

The SAA review cycle should be calibrated to the different product lines and their financial complexity. Some products may require a formal review annually, while others may require a less frequent review, for example, every three years. The framework should allow SAA owners to trigger a review sooner than the review cycle if there is a material change in the product or if the SAA has become materially out of line due to extreme market movements or due to other valid reasons.

Our suggested SAA methodology is set out below along with our insights on each step.

2a Set / reset SAA objectives including agreeing target risk profile and external constraints

2b Define the asset universe against which to apply the SAA objectives

2c Derive SAA portfolios by applying the output of step 2a to the asset universe defined in step 2b

2d Periodic oversight and review of SAA objectives against actual performance

2e Recommend SAA changes, if any, as part of the periodic review cycle or following SAA owners' input off-cycle

2a. Set / reset SAA objectives including agreeing target risk profile and external constraints

Each fund or portfolio backing a particular product line should define an objective and risk tolerance for the target customer purchasing the product. The overarching principle should be for the SAA to seek to obtain the best outcome for customers considering their risk appetite and investment time horizon as well as the fund's liability profile, risk appetite, HKRBC capital and liquidity requirements.

For participating or with-profits business, an example set of SAA objectives may consist of:

- Seeking to optimize investment returns over the long-term through investing in a multi-asset portfolio subject to policyholder risk appetite and overall risk and capital management limits set for the fund.
- Fixed income holdings and benchmarks have regard to the duration and liability profile to be able to satisfy the HKRBC Matching Adjustment (MA) eligibility and to optimize the MA benefit.

Shareholder assets might simply have an SAA objective of maximizing the investment return subject to shareholder risk appetite.

Risk limits will also be documented to define the maximum level of risk that can be taken for funds / portfolios considering the insurer's Risk Appetite Framework / Policy. As an example, for participating funds, the risk levels should be consistent with HKRBC risk limits and considering policyholder reasonable expectations based on past communications and illustrations. Other risk considerations may also be used to assess whether proposed SAAs meet objectives. This could be done through stochastic modelling and stress testing to understand tail risk of the SAA.

The SAA process should also reflect any constraints such as liquidity requirements (both short-term and long-term requirements), any constraints on illiquid asset investment, tax efficiency or other qualitative considerations.

2b. Define the SAA asset universe

The SAA asset universe will define the asset classes and sub asset classes to be considered for investment. The definition of the asset universe should factor in the expectations and needs of customers and be wide enough to ensure adequate diversification can be achieved.

The SAA asset universe will usually be informed by:

- The insurer's investment philosophy and beliefs including Environmental, Social and Governance (ESG) beliefs.
- The attractiveness of different asset classes and sub asset classes and their associated risks, return expectations and HKRBC capital requirements.
- The requirements from relevant policies (Market Risk Policy, Credit Risk Policy, Liquidity Risk Policy, Derivatives Policy), which set out the need for assets to reflect desired levels of profitability, security, availability and liquidity as well as the use of derivatives for efficient portfolio management or hedging.
- The insurer having appropriate skills and resources to understand and oversee the management of the assets, particularly for illiquid or complex assets.

2c. Derive SAA portfolios

The SAA methodology should explain the quantitative analysis used to derive candidate SAA portfolios. We recommend a stochastic optimization approach over a Mean-Variance Optimization (MVO) given the widely known limitations of MVO:

- Difficulty in factoring in capital requirements as an MVO simply optimizes in two dimensions (return versus risk).
- MVO may produce "outlier" SAA candidate portfolios which would require material changes from the current SAA. This could lead to excessively frequent portfolio turnover and costs;
- Lack of ability to adequately account for liabilities;
- Limited ability to account for downside / tail risk.

The optimization approach should also consider the product design and features and how different risks may materialize including path dependency.

The SAA model needs to have an appropriate level of granularity and flexibility to allow assumptions to be changed and to investigate the impact of such changes on results. It is preferable for the model to be stochastic because it can project a wide range of future investment return scenarios for different asset classes and reflecting correlations between assets. Risk and constraints should be codified in the model. The SAA model should capture the liability profile including any duration mismatches and the impact of management actions in both base case and adverse scenarios. It should further calculate the HKRBC capital requirements of SAA portfolios and the MA benefit for MA portfolios. The quantitative metrics used to assess a candidate SAA portfolio should be specified, for example, median returns over suitable time periods, volatility over one year, Sharpe ratio, HKRBC capital requirements, HKRBC Solvency Ratio, MA benefit, Value at Risk (VaR) percentiles (e.g. 95th and 99.5th), liquidity metric etc.

Best practice is to use an iterative approach when choosing the SAA. Assumptions and constraints will need to be flexed to understand their impact and to assess whether they are indeed appropriately calibrated. Iteration may also result from the input and challenge from the Risk team or other independent review.

Best practice is to also overlay qualitative considerations on the quantitative results to determine appropriate SAAs. Expert judgement is often used for the qualitative overlays, and this also applies to defining constraints. For example, if the insurer has yet to build up its knowledge and oversight capability for a particular illiquid asset class, a qualitative constraint could be imposed to apply a temporary limit on the particular illiquid asset allocation. This constraint would apply until the insurer has developed a strong understand and capability to oversee the illiquid asset investment. This is often a matter of judgment.

2d. Oversight and review

The SAA decision can have a material impact on customers. As such, an independent review and challenge is critical to ensure SAA decisions are taken within a robust and controlled framework. In practice, this review and challenge should occur throughout the SAA process. This review would usually be performed by the Risk team of the insurer or another independent reviewer.

2e. Recommend SAA changes

Best practice is to derive a small number of candidate SAA portfolios for recommendation reflecting different assumptions and objectives. There are a number of criteria to optimize the SAA against (return, risk, capital requirements) and the insurer should prioritize these criteria to derive candidate SAA portfolios. Some possible options to consider for the candidate SAA portfolios:

- Maximize return and MA benefit for a given volatility target or HKRBC capital requirement;
- Reduce volatility or HKRBC capital requirement for a given return target;
- Maximize return while achieving the lowest VaR 95th / 99.5th percentile (to manage tail risk).

Sensitivity tests should also be performed on the candidate / recommended SAAs to ensure they remain resilient under stressed conditions.

Recommend SAA changes, if any, will then be proposed by SAA owners for governance approval as part of the periodic review cycle or following SAA owners' input off-cycle.

Step 3 – Define the documentation to be produced as part of a SAA review

An SAA review report should be concise whilst providing relevant information as explained above to allow key stakeholders and committees (Investment Committee, ALM Committee) to review and decide whether or not to approve the proposed SAA.

The SAA review report should cover the background and purpose of the review, contain an executive summary followed by sections documenting the methodology, how risk appetite, liability, currency, liquidity and customer considerations were factored into the review, set out the candidate SAA portfolio results with associated quantitative metrics and the sensitivity testing performed, include a view from Risk or other independent reviewers on the SAA, highlight any other risks and considerations, clearly outline the recommendations and approvals sought from the committee.

A roadmap for implementation of the new SAA is particularly useful as it could consider phasing in the SAA taking into account short-medium term market views, transaction costs and asset liquidity.

Step 4 – Set the governance process for developing and maintaining the SAA

This step explains the roles and responsibilities for the development and maintenance of SAAs, including calling for periodic independent challenge and assurance around SAAs.

The committees involved in SAA decision making should be identified at the outset. They may include an Assumptions Committee to approve assumptions to be used in SAA, an Investment Committee charged with the reviews and approval of SAA decisions, a Risk Committee to oversee and provide for an independent challenge of the SAAs to the delivered by the insurer's Risk team.

The roles played in the development and maintenance of SAAs should also be specified to ensure adequate segregation of duties. SAA owners have responsibility for products underpinned by the required SAAs, the Investment Team is responsible for monitoring compliance with the SAA, the Actuarial Team is responsible for the quantification of all relevant metrics associated with SAAs and the Appointed Actuary / Chief Actuary is required to review and challenge the SAAs considering customer interests.

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