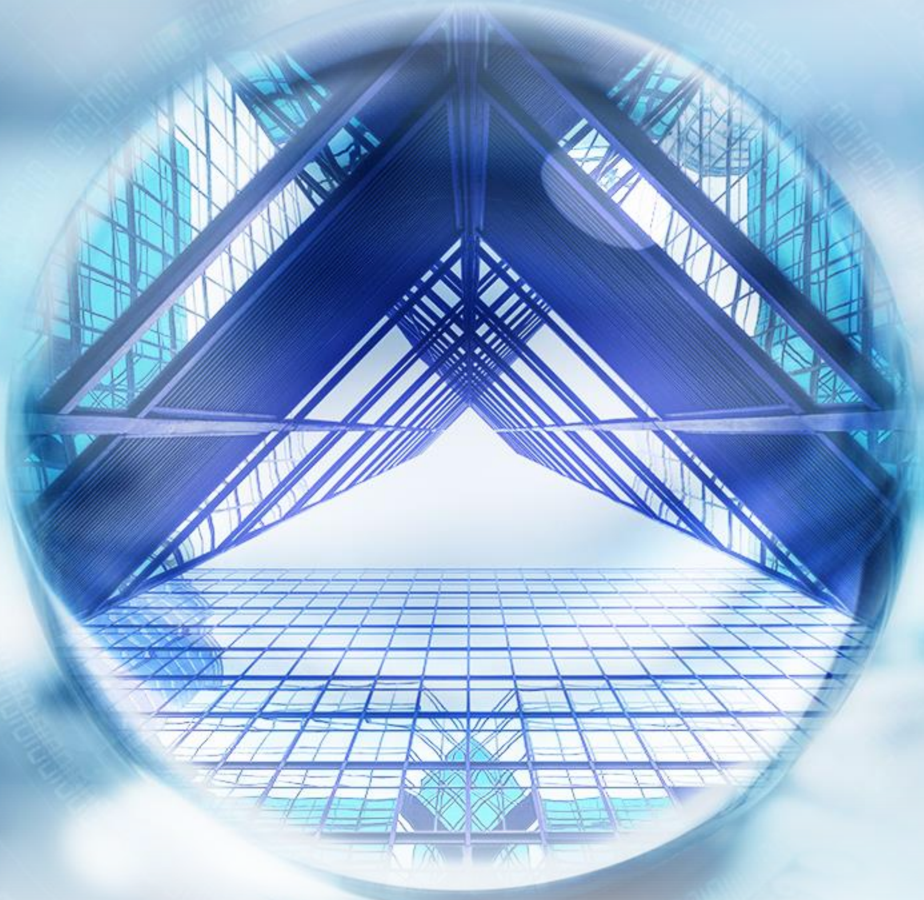

Derivatives Framework under HKRBC

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Continuing our series of Hong Kong Risk-Based Capital (HKRBC) insights, the next topic we explore is how Hong Kong insurers can set up a derivatives framework under HKRBC.

HKRBC is expected to stimulate a greater use of derivatives for efficient portfolio management or hedging purposes. Hedging is very commonly used in risk-based regimes to improve asset and liability matching, reduce balance sheet volatility and protect against extreme market events such as equity market falls, credit spread widening and extreme interest rate movements, to name just a few common hedgeable risks. However, before considering whether to hedge or not, we believe that a derivatives framework is needed to ensure there is proper governance and ongoing management around hedging decisions. This framework would aid an insurer in Hong Kong to achieve the economic benefit from hedging and the compliance requirements under HKRBC.

How do you set up a derivatives framework?

Deloitte's 3-step approach for setting up a derivatives framework consists of:

1. Agreeing the objectives and constraints for the derivatives framework
2. Developing the derivatives framework
3. Implement and maintain the derivatives framework

Step 1 – Agree objectives and constraints

This step begins with a review of the relevant pre-existing documents and policies such as the Strategic Asset Allocation (SAA) framework, the Economic Capital framework, the Risk Appetite policy and other relevant documents which may influence the insurer's choices around the use of derivatives. An insurer can gain a better understanding of its own hedging objectives through this review, including insights on how to prioritize against the HKRBC requirements, against its IFRS profit or loss (P&L) profile, economic capital, embedded value, crediting rates and other factors such as the cost of hedging to policyholders and shareholders. All these multi-dimensional factors create a set of constraints that effectively design the perimeter within which an insurer can define its derivatives framework. An insurer may also consider comparing itself against the objectives and constraints in derivatives framework from other insurers when this information is available.

Step 2 – Develop a derivatives framework

Based on our experience, we believe a derivatives framework can be developed by considering ten areas.

a. When to use / choose between a derivative and a non-derivative solution and what influences this decision

An insurer ought to start by considering the degree to which derivatives are viable under HKRBC and from an economic point of view. For example, in certain cases, a non-derivative solution may achieve the same goal at a lower cost compared to a derivative solution.

In this area of the derivatives framework, an insurer would prioritize its metrics to choose the hedging instrument that better achieves the hedging goal. Metrics such as IFRS P&L, economic capital, embedded value, crediting rates would be considered in assessing the relevant impact of the hedging instrument across these metrics when different scenarios associated with the hedged risk materialize. These analyses would highlight any constraints on earnings and economic volatility as well as cost implications such as the costs for policyholders and shareholders. The analyses would also quantify the effects of the hedging in absolute terms, relative to benchmarks or target returns.

This provides the quantitative foundation for the framework because it highlights the risks of using derivatives, particularly to hedge new risks (market, liquidity, counterparty, operational, basis risk etc.), and how these risks could be managed and reported (identification, measurement, control etc.) with or without the hedging instrument.

The considerations for participating business should receive particular attention because different hedging approaches could apply for enhancing policyholder outcomes versus hedges designed to protect balance sheet solvency.

b. Oversight of internal asset manager and / or external counterparties - controls around intra-group trading and external trading

This area focuses on the purchase of the hedging instrument through the insurer's internal asset manager and / or through external counterparties. For insurers who are part of a group, the insurer will need to consider intragroup limits, external limits and collateralization needs, including whether to collateralize intragroup exposures.

For participating products, to demonstrate fair treatment of customers, the insurer should aim to achieve best pricing for derivative trades.

c. Type of derivatives permitted

In this area, the insurer documents the list of permitted derivatives including criteria used to determine the list and any variations for business units operating in different jurisdictions (for example, certain localized derivatives may only be allowed by that jurisdiction). The permitted list of derivatives should be wide enough to cover the hedging needs of the insurance operations identified in the first area. Any non-permissible derivatives should also be clearly documented. Alternative forms of risk management would need to be activated outside the derivatives framework (e.g. through reinsurance).

The framework should include documentation for each type of risk exposure that can be hedged such as equity level, equity volatility, credit default and interest rate. For interest rate, additional details would be needed to ensure shape, convexity, currency are known. The framework should list the types of hedging instruments that an insurer would theoretically consider against those risk exposures if they were going to be hedged. This area naturally connects with the first area discussed above.

d. Risk Limits on derivative exposure

In this area of the derivatives framework, the insurer documents the limits on the usage of different types of derivatives. Limits may be set at an entity level and / or group level (if applicable) as well as at a derivative program level. All these limits would usually be calibrated to the insurer's risk appetite.

e. Process for approval and delegate authorities

This area considers a suitable set of delegated authorities with associated limits. The limits would usually consider less stringent approvals for derivatives which have been previously used and which management have a good understanding of such that the required purchase could be done without governance slowing down the process and promptly hedging the risk exposure that might have been identified because of changes in market variables. An insurer should document the approval process and delegated authorities i.e. who can approve derivative usage, up to what limits, accountabilities and oversight.

The insurer should additionally document responsibilities for key roles such as those attributed to the Chief Investment Officer (at local entity and Group level, if applicable), Head of ALM / Capital Optimization, Head of Risk to name a few common key roles frequently documented in this area of the derivatives framework.

f. Hedge effectiveness assessment and monitoring

Hedging decisions are typically based on a core metric e.g. HKRBC or Economic Capital. The impact of the hedging decision must be analyzed on other key metrics such as IFRS P&L and embedded value to ensure a comprehensive assessment of the effect from the chosen hedging strategy.

To achieve an effective oversight and monitoring of its hedging activities, the insurer needs to perform regular assessments of the hedge effectiveness under the relevant metrics and to report the effectiveness results in appropriate management information (MI) that would be reviewed and approved by dedicated internal committees. Enhanced or new MI may need to be produced to adequately monitor the effectiveness of hedging activities as they evolve over time or in response to new hedging possibilities such as those that will be more accessible under HKRBC.

g. **Permissible external counterparties and oversight**

In this area of the derivatives framework, the insurer documents the counterparty criteria and exposure limits, brokerage and how it seeks to achieve best pricing, subsequent valuation process and methodology, the oversight and regular monitoring to be performed on the counterparty that has sold the derivative instrument.

h. **Cleared and non-cleared trades**

For centrally-cleared derivatives and over-the-counter derivatives, the insurer ought to document key considerations and differences, for example, on pricing, valuation, collateral / margin requirements, liquidity and counterparty credit risk. On valuation, we note the importance of documenting the impact of X-Value Adjustments, which represent the valuation adjustments made to derivative trades to reflect various costs related to the trade.

i. **Collateral and Collateral Management**

Collateral management for derivative trades is important to manage credit risk and reduce risk of counterparty default. In this area of the derivatives framework, the insurer will document the collateral management considerations, specifically how much collateral to hold on an ongoing basis and the scenario stress testing to be performed on collateral. Collateral management procedures including the responsibilities, systems, frequency of monitoring, legal agreements, MI produced are usually documented as well.

j. **Ownership of framework, regular audit and other considerations**

This area of the derivatives framework documents who owns the framework and is responsible for keeping it up to date including maintaining the associated standards and producing any annual attestation to the Investment Committee or the Board. The framework should document the role of the internal audit function in performing audits on derivative usage including how compliance with local and other relevant regulation is achieved. Other considerations such as the implications of Interbank Offered Rates (IBOR) replacement for the insurer and its entities may also be documented

Step 3 – Implementation of Derivatives Framework

Implementation of a new derivatives framework should consider any gaps identified in the previous derivative practices against the new framework. To identify gaps, the insurer may focus on understanding the rationale and how previous hedging decisions were taken, what resources were involved including an assessment of the skills and expertise applied to manage derivative exposure. This step will help prioritize areas to focus on and achieve improvements where they are more needed to ensure compliance with the new framework. As with any implementation, planning, tracking the implementation progress, delivering training to embed the new framework when implemented are all critical activities to ensure the implementation is successful.

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