Bermuda Reporting Requirements

An overview of statutory and solvency reporting deliverables for general insurers

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Contents

Commonly used acronyms in the Bermuda reporting regime

BEL	Best Estimate Liability
ALM	Asset Liability Matching
BMA	Bermuda Monetary Authority
BSCR	Bermuda Solvency Capital Requirement
CISSA	Commercial Insurer’s Solvency Self-Assessment
CIRA	Commercial Insurer Risk Assessment
CSR	Capital and Solvency Return
EBS	Economic Balance Sheet
ECR	Enhanced Capital Requirement
FCR	Financial Condition Report
GSSA	Group Solvency Self-Assessment
LRS	Loss Reserve Specialist
LRSO	Loss Reserve Specialist Opinion
MSM	Minimum Solvency Margin
PML	Probable Maximum Loss
RM	Risk Margin
SFS	Statutory Financial Statements
TP	Technical Provisions

Overview of reporting landscape

Statutory reporting regime

To ensure that Bermuda continues to adhere to international standards and best practices for insurance regulation and supervision, in 2015 the BMA instituted a series of enhancements to its statutory and prudential reporting requirements for commercial insurers.

Statutory Reporting

The BMA recognizes that insurers having varying risk profiles arising from the nature, scale and complexity of their business. As a result, commercial insurers have additional reporting requirements, such as:

- Every commercial insurer shall, in addition prepare GAAP financial statements in respect of its insurance business for each financial year. A company can choose to report under US GAAP, Canadian GAAP or another framework (such as IFRS) as their ongoing reporting requirements.

What's audited?

Consolidated GAAP Financials

Prudential Filters

Consolidated Statutory Financial Statements – New requirement from 2016

Unconsolidated Statutory Financial Statements

When is it filed?

Must file within 4 months of the year-end unless an extension is obtained, which is usually issued 1 month at a time, provided that the company is in compliance and there is a valid reason for the request.

The principal representative is responsible for obtaining the extension.

Actuarial Opinion

Commercial classes require a loss reserve specialist opinion on the Technical Provisions on the EBS.

Solvency reporting and capital assessment

As a Solvency II equivalent jurisdiction, Bermuda adopts a Three Pillar approach to risk-based supervision. Insurers file a Capital and Solvency Return (CSR) within four months of the financial year end.

Solvency Reporting

An overarching objective of Bermuda's solvency regime over the past decade is to achieve and maintain Solvency II equivalence, which effectively enables Bermuda domiciled insurers to conduct business in the EU on a level playing field as EU domiciled insurers. The BMA is keen to sustain and continue to develop its risk-based regulatory approach that both (a) meets or exceeds international standards and (b) appropriately reflects the nature of the Bermuda market.

To this end, numerous legislation and guidance have been recently issued, that broadly mirror the Three Pillar approach of Solvency II.

Pillar 1
Quantitative Requirements

Required capital based on Economic Balance Sheet (EBS).

Bermuda Solvency Capital Requirement (BSCR) computed using standard formula or approved internal model.

Calibrated to approach but not exceed Solvency II.

Pillar 2
Risk Governance

Prepare Commercial Insurer's Solvency Self Assessment (CISSA), assessing risk governance and capital adequacy under normal and stressed conditions.

Integrate at Group level where multiple legal entities exist.

Pillar 3
Risk Disclosure

Beginning with 2016-year end, prepare Financial Condition Report (FCR).

Outline performance, risk profile, and organizational governance.

To be made publicly available on insurer's website.

Statutory Financial Statements (SFS)

Statutory financials and scope of audit

In order to streamline the process and minimize duplication of effort, the BMA amended statutory accounting valuation standards to be consistent with GAAP valuation, subject to certain prudential filters.

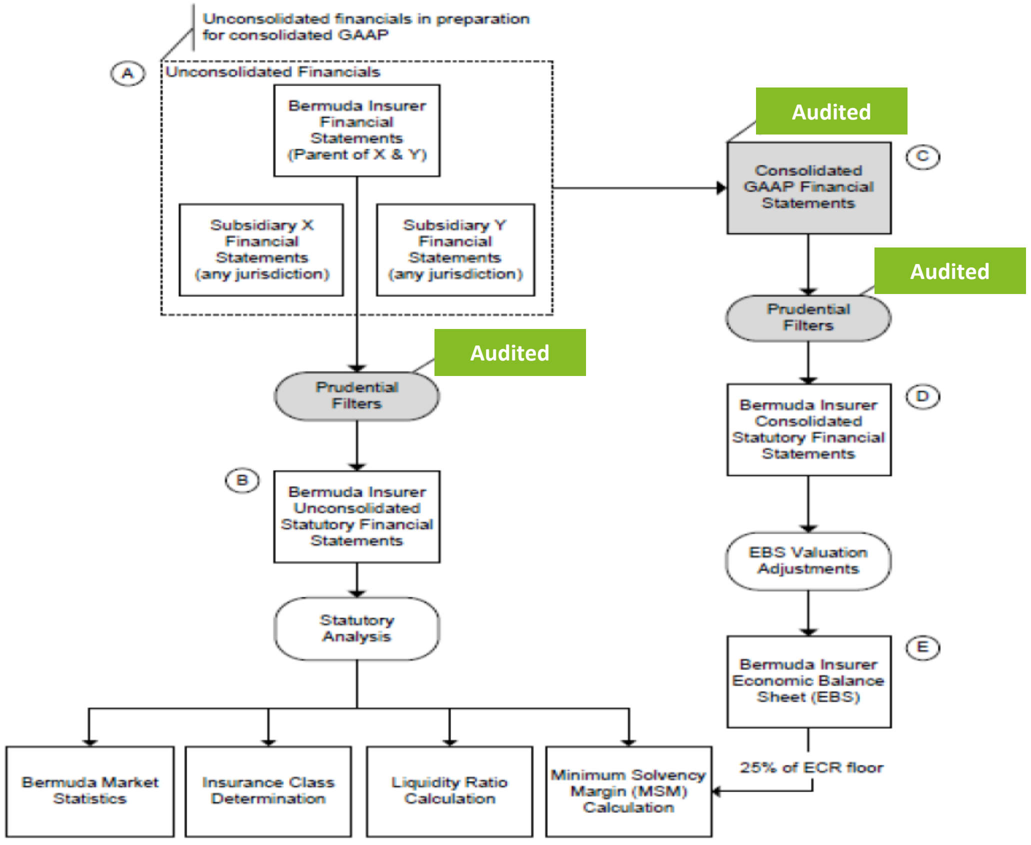
Scope of the Audit

GAAP Financial Statements and Prudential Filters are required to be audited.

The auditor's opinion is whether the statutory balance sheet, statutory income statement, and statutory capital and surplus have been prepared in accordance with the Act and these Rules.

- Forms 1SFS, 2SFS and 8SFS

Some key prudential filters include:	
Goodwill	Valued at zero.
Other intangibles	Value of future economic benefits flowing to insurer, only if separable and evidence of similar exchange transactions; zero otherwise.
Prepaids and deferred expenses	Valued at zero.
Deferred acquisition costs (DAC)	Valued consistently with GAAP.
Contingent liabilities	Expected present value of future cash flows.
Deferred tax assets/liabilities	Valued consistently with GAAP.



Source: Bermuda Monetary Authority

Economic Balance Sheet (EBS)

The Economic Balance Sheet framework

Beginning with financial year 2016, the EBS framework forms the basis used to determine capital requirements for Bermuda commercial insurers. The Loss Reserve Specialist is also required to render an opinion on the reasonableness of EBS technical provisions.

Principles of EBS

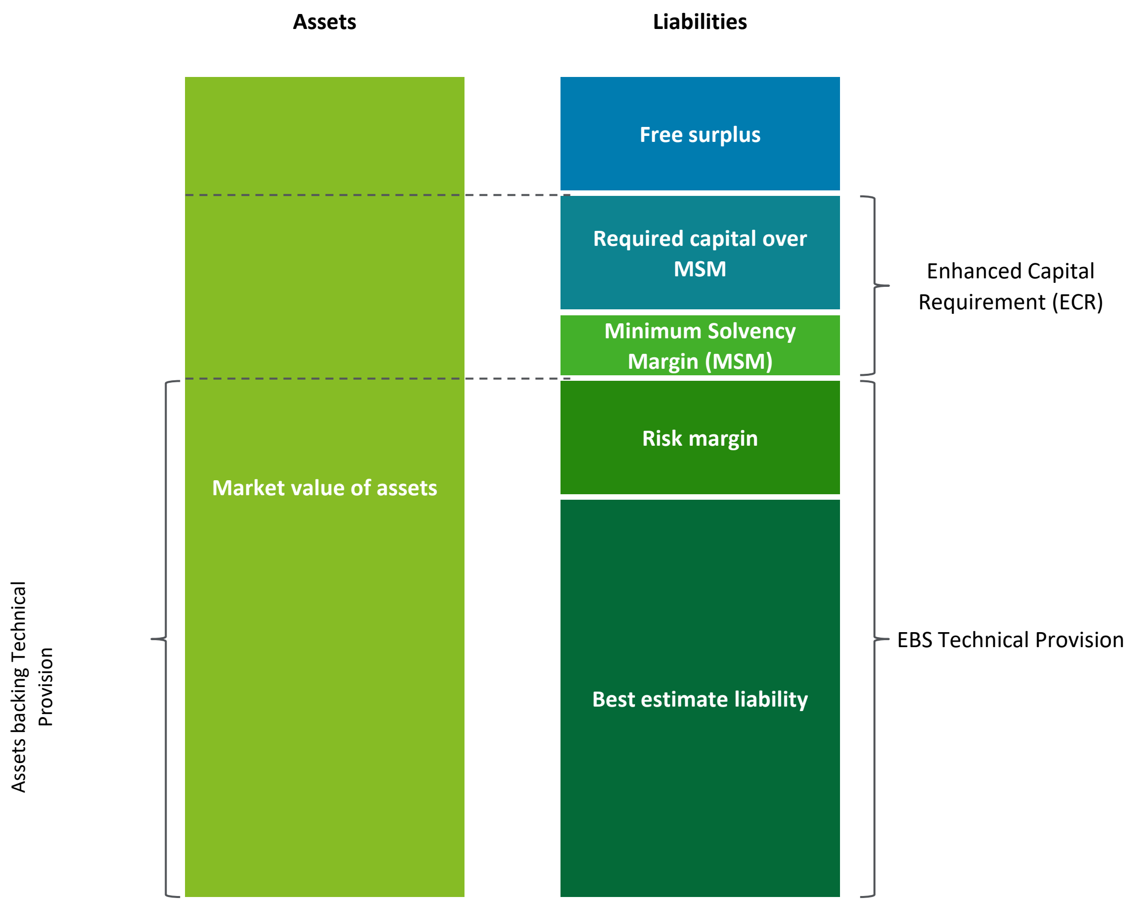
Assets and liabilities are assessed and included on the EBS at fair value in line with GAAP principles, or, if GAAP does not require an economic valuation, following the EBS fair value hierarchy.

Specifically, a Technical Provision is required for insurance liabilities. It is calculated as follows:

- Best estimate cashflows
- Discounted for time value of money and illiquidity
- Plus, a risk margin for uncertainty inherent in the cashflows

Because EBS is designed to evaluate a company's level of economic surplus, non-economic assumptions are zeroed.

When applying the EBS framework, the principle of substance over form is applied, for example when selecting actuarial methodologies.



Unpacking the Technical Provision

The Technical Provision represents the amount required to meet insurance obligations as they fall due, and compensate capital providers for assuming the risk inherent in these obligations.

1. Liability cash flows are projected according to the actuary's best estimate assumptions for the relevant risk drivers.

2. Cash flows are discounted to reflect time value of money and illiquidity. The BMA provides calibrated discount curves for widely used currencies.

3. A risk margin is added to reflect the inherent uncertainty in the best estimate cash flows. This reflects the amount of compensation required by capital providers for bearing this uncertainty.

4. The EBS Technical Provision is the total liability value recorded for insurance obligations. The Loss Reserve Specialist renders an opinion on the reasonableness of overall TPs.

Other EBS considerations

There are several other new concepts in the EBS framework that build on the statutory basis toward a more economically consistent technical provision. Notably, insurers need to calculate a risk margin, adjust reinsurance recoverable for default costs, and render an actuarial opinion on the overall reasonableness of the TPs.

Risk margin

A risk margin is added to the BEL to arrive at the total EBS technical provision. Although the BEL by definition reflects the expected value of insurance benefits payable, there is inherent uncertainty in the underlying cash flows.

Conceptually, the risk margin represents the compensation required by the insurer to bear this uncertainty. The preferred methodology is the Cost of Capital approach, but certain approximations are permissible. Under this approach, the insurer calculates the cost of holding its required capital over the lifetime of its insurance obligations, as follows:

$$RM = CoC \times \sum \frac{ECR_t}{(1 + r_{t+1})^{t+1}}$$

- ECR_t is the insurers required capital at time t, per the standard formula or its own internal model.
- r_t is the risk-free discount rate
- CoC is the cost of capital – currently 6%

Counterparty default

Under the EBS framework, reinsurance recoverables must be adjusted for expected losses due to counterparty default. The preferred methodology mirrors widely used expected credit loss approaches.

Bound But Not Incepted (“BBNI”) Business

Provisions must also be set aside for business to which the insurer is bound to as at the valuation date, even though the underlying contracts may not yet have incepted.

Actuarial opinion

Under the new reporting regime, an actuarial opinion is required on the reasonableness of EBS TPs.

The Loss Reserve Specialist should specifically discuss the following:

- Commentary on data underlying the EBS TPs
- Discussion of how Events Not In Data (ENIDs) are incorporated into their actuarial estimates
- Discussion of how the Loss Reserve Specialist arrived at their actuarial estimates of the insurer’s aggregate TPs
- Commentary on the methodology used to arrive at the adjustment included in the best estimate of reinsurance recoveries that was made to reflect expected losses due to counterparty default

Bermuda Solvency Capital Requirement (BSCR)

Capital requirements

Insurers are required to demonstrate capital adequacy with respect to the Bermuda Solvency Capital Requirement (BSCR), which is computed per the BMA's standard capital model or an approved internal capital model.

Risk categories

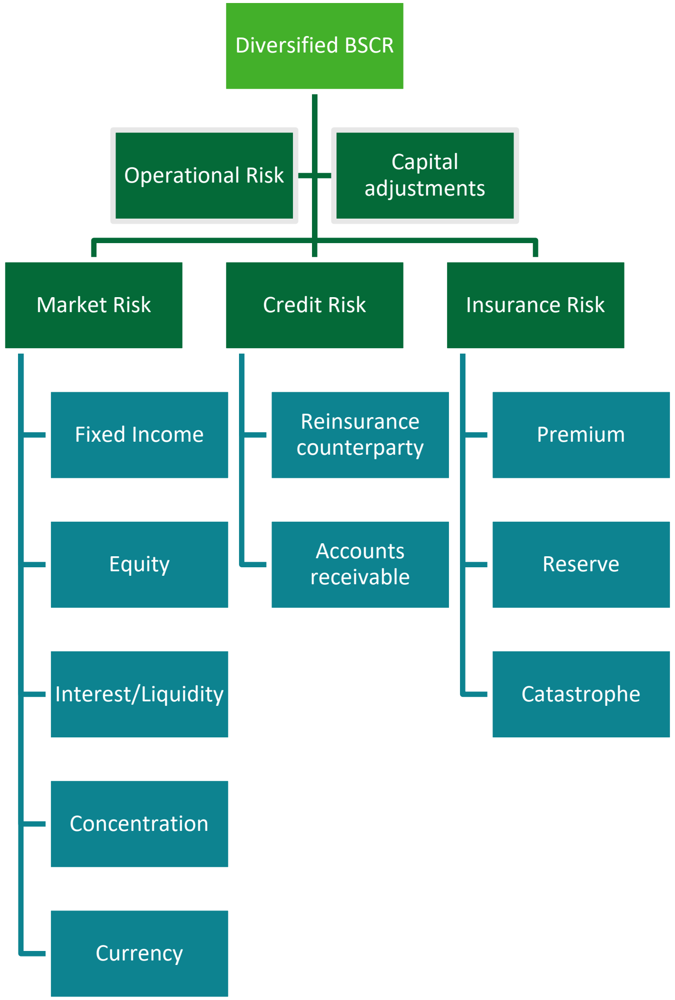
General insurers must calculate capital requirements with respect to the categories to the right. Most capital calculations are determined by multiplying the prescribed capital factor by some defined exposure amount. Some key factors include:

- **Premium:** ranges from 15-55% of diversified net written premium with concentration adjustment
- **Reserve:** ranges from 12-52% of diversified EBS BEL with concentration adjustment
- **Catastrophe:** Net PML less CAT premium less credit risk charge on reinsurance recoverable
- **Investments:** generally, market value x factor ranging by riskiness of asset
- **Interest:** duration or shock-based methodology on net assets
- **Market:** generally, market value x factor ranging by riskiness of asset

Aggregation

Capital requirements are aggregated in a straightforward manner, applying a very simple dependency structure as follows:

- Half the credit risk charge is perfectly correlated with reserve risk
- All other pairs are independent of each other
- Operational risk and capital adjustments are added on post diversification



BSCR Individual Charges

Below we explain in more detail the risk charges associated with Bermuda's BSCR framework for general insurers

Summary of BSCR Risk Charges	
Risk Module	**Bermuda BSCR**
Fixed Income Investment Risk	Applies to all fixed income investments, and charges vary by asset class (corporate bonds, mortgages, etc.) and BSCR rating.
Equity Investment Risk	Applies to all equity investments and varies by various factors. Includes common equity, preferred equity, and real estate.
Credit Risk	Applies to reinsurance exposure balances, as well as accounts receivables.
Interest Rate Risk	Applies to net assets, either via a duration-based approximation or using a interest rate shock methodology on asset and liability cash flows.
Concentration Risk	Applies to top 10 asset exposures. Effectively, the insurer must hold double the asset risk charge on these 10 exposures; however, the additional charge is diversified with other risk modules.
Currency Risk	Applies to net foreign currency exposures, and charges vary by currency.
Premium Risk	Applies by BMA Line of Business. Written premium applicable for each line is used to arrive at a premium risk charge by multiplying the relevant premium by an associated pre-defined risk factor
Reserve Risk	Applies by BMA Line of Business. Takes the claims provision component of the TPs by Line of Business, and arrives at a reserve risk charge by multiplying the claims provision by an associated pre-defined risk factor
Catastrophe Risk	Catastrophe risk exposures by peril / region are multiplied by risk factors and aggregated in order to arrive at an overall catastrophe risk charge
Diversification Credit	Applied using a straightforward covariance approach prescribed by the BMA.
Operational Risk	Applies as a surcharge to diversified BSCR, based on the insurer's self assessment of their risk controls and governance.
Taxes	N/A

Solvency ratios and eligible capital

Financial instruments may qualify into one of three tiers according to their permanence and subordination. The BMA further enforces constraints on the quality of capital supporting the MSM and ECR.

MSM and ECR

The Minimum Solvency Margin (MSM) is a prescribed regulatory capital floor as a function of business volume. The Enhanced Capital Requirement (ECR) is the maximum of the MSM and BSCR requirements. The BMA imposes a target ECR coverage ratio of 120%. BSCR will almost always be greater than the MSM and will hence drive the ECR.

The minimum capital requirements are intended to reflect a 0.5% probability of insolvency, generally considered commensurate to a BBB-rated company. Companies targeting higher credit ratings would target higher coverage ratios as defined in their risk appetite.

Eligible capital

The general criteria for an instrument to qualify into one of the three capital tiers are outlined in the table to the right.

In the case where certain assets are encumbered due to the nature of a particular reinsurance structure, any excess encumbrances are classified as either Tier 1 or Tier 2.

Tier	Constraints	General criteria for eligibility
Tier 1	At least 80% of MSM At least 50% of ECR	Perpetual, unencumbered, non-redeemable, non-callable and the highest level of subordination.
Tier 2	At most 25% of MSM At most 50% of ECR	Relaxes some Tier 1 criteria to allow callable hybrids and some other non-perpetual instruments available under a going concern, and certain approved letters of credit/guarantees.
Tier 3	Ineligible for MSM At most 15% of ECR	Further relaxes criteria to allow more non-perpetual instruments, and certain approved letters of credit/guarantees.

Transition to new regime

In its continued effort to maintain Solvency II equivalence, the BMA planned several refinements to the BSCR standard model which were recently field-tested prior to implementation. The changes came into effect 1/1/2019 and phased-in over a three-year period for general insurers.

Area	Changes in new regime
Equity risk	In the current regime, equity risk charges range from 5% to 55% by type of holding. The new regime introduces various changes to these charges, notably increasing the charge on common stocks from 14.4% to 35%. Additionally, strategic or duration-based holdings are now charged 20%. Short positions used for hedging purposes may be netted. Additionally, equity holdings are classified into three buckets, which are assumed to be 75% pairwise correlated, as opposed to perfect correlation in the current framework.
Risk aggregation	In the current regime, risks are generally considered to be independent, with a few exceptions, leading to generous diversification benefits. The new regime uses multiple layers of correlation matrices, consistent with the Solvency II approach.
Operational risk	In the current regime, the operational risk surcharge ranges from 1% to 10% according to the insurer's score on the CIRA. The scoring process is unchanged; however, the new regime changes the associated range of surcharges to 1% to 20% and steepening the scale such that insurers are further incentivized to implement comprehensive operational risk frameworks.
Deferred taxes	The BMA recognizes that certain Bermuda-licensed insurers pay taxes in a foreign jurisdiction, and consequently any loss absorbing capacity resulting from such should be deducted from the insurer's capital requirements. The new regime sets adjustment limits based on a combination of carried-back losses, current net DTL position, and anticipated carried-forward losses.
Premium risk	In the current regime, premium risk exposure only considers net written premiums for the current reporting year. To better align with Solvency II, the scope for premium risk charge is expanded to include potential growth in earned premium over the following year, as well as future earned premiums on multi-year contracts.
Risk mitigation	The BMA recognizes that risk mitigation techniques are central to many insurers' business strategies and will allow adjustments to capital requirements subject to certain criteria on the permanence and legal enforceability of such mitigation.
Look through	In the current regime, risk charges for investments in collective investment vehicles or funds are evaluated on a total basis. The new regime requires "looking through" to the underlying assets within the fund and determining risk charges on an individual basis. If individual asset information cannot be reliably obtained, risk charges may be calculated based on a target allocation provided that the underlying assets are strictly managed to these targets, or based on investment limits, representing the riskiest allocation that is at any time permissible within the investment strategy.

Phase-in

Proposed changes are being linearly graded in over three reporting years beginning with the 2019 year-end filings.

Capital requirements for Insurance Groups

A comparison of the BSCR risk changes under the Old Regime and New Regime is presented below

Summary of BSCR Risk Charges		
	Old Regime	**New Regime**
Fixed Income Investment Risk	Varying factors by asset class and BSCR rating applied to value of fixed income investments	Similar, includes a risk charge for credit spreads based on prescribed shocks
Equity Investment Risk	Varying factors equity type and BSCR rating applied to value of equity investments (includes common/preferred equity, and real estate)	Varying shocks applied to 4 categories of equities, taking into account equities qualified for risk-mitigating purposes
Interest and Liquidity Risk	2% factor applied to value of asset and net duration gap	Varying shocks applied to interest rate based on currency of the asset
Concentration Risk	Varying factors by asset class and BSCR rating applied to the top 10 asset exposures	Similar, with significant changes to factors applied to “Other Assets”
Currency Risk	Varying factors applied to net positions of assets and liabilities under each currency. Accounts for currency hedging arrangements	Varying shocks applied based on currency of the asset and reporting currency
Credit Risk	Varying factors by type of debtor applied to receivable amounts	Similar, includes a risk charge for credit default on OTC derivatives
Premium Risk	Varying factors by lines of business applied to written premiums	Varying factors by lines of business applied to written premiums and expected future premiums, aggregated with a correlation matrix
Reserve Risk	Varying factors by line of business applied to corresponding claims provision	Similar, and aggregated with a correlation matrix across lines of business
Catastrophe Risk	Formula driven based on net probable maximum loss and catastrophe premiums	Unchanged, except scope of catastrophe premiums aligned to new premium risk base exposure
Diversification Credit	Formula driven covariance approach	Applies correlation matrices within and across risk categories
Operational Risk	Factor applied to diversified BSCR based on self assessment of risk governance framework	Similar, but increased factors for underdeveloped risk governance frameworks
Capital Adjustments	Reflects any BMA approved add-ons / deductions	Similar, expanded to include adjustment for company management actions and deferred taxes

Governance and disclosure

Pillar 2 reporting

Commercial insurers are required to submit certain qualitative and quantitative reporting deliverables with respect to their risk governance. Notably, insurers must complete a Commercial Insurer's Solvency Self Assessment (CISSA), as well as report the Pillar 1 quantitative impacts as a result of a set of prescribed and self-identified stress tests.

CISSA

The insurer must self-assess its capital requirements with respect to the key risk categories identified by the BMA and provide commentary on why its self-assessment differs from the BSCR.

The insurer must additionally disclose contingency plans with respect to maintaining capital adequacy under stress.

Insurers with value-added CISSAs incorporate the results from the self-assessment into its key strategic decisions. Common areas where CISSA results are integrated into business decisions include:

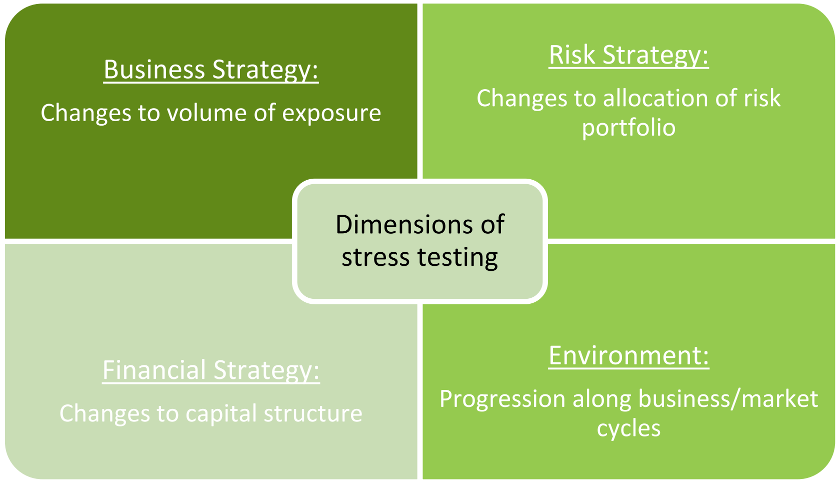
- Strategic planning
- Defining risk appetite
- Capital allocation
- Rating agency considerations
- Reinsurance strategy
- Profitability measurement
- M&A

As part of the CISSA, the Board must review risk governance policies and processes.

Stress Testing

Commercial insurers are also required to submit supplementary quantitative analysis describing the impacts of certain stresses on statutory surplus. The scenarios under consideration are a combination of those prescribed by the BMA, insurer-specific underwriting scenarios, and reverse stress tests.

When quantifying the financial impact of a particular stress test, it is important to consider the following key dimensions:



Pillar 3 reporting

Beginning with financial year 2016, commercial insurers are required to submit a Financial Condition Report (FCR), which is to be made publicly available. The report provides risk disclosure with respect to five key areas.

Financial Condition Report

The FCR requires the insurer to discuss its risk management function and overall business operations with respect to key areas of measures governing the business operations, corporate governance framework, solvency and financial performance and capital management of a commercial insurer.

This structure is analogous to similar disclosure requirements under Solvency II.

Business & Performance	System of Governance	Risk Profile	Solvency Valuation	Capital Management	Other
• Ownership • Organizational structure • Insurance business activities • Financial performance • Insurance business written by business segment and by geographical region by the insurance group during the reporting period • Investment portfolio	• Board & senior management • Fitness and Propriety Requirements • Risk Management and Solvency Self-Assessment • Internal Controls • Internal Audit • Actuarial Function • Outsourcing	• Material risks • Risk mitigation • Material risk concentrations • Prudent person principle • Stress testing	• Valuation basis • Recoverable	• Eligible capital • Regulatory Capital Requirements • Approved Internal Capital Model used to derive the ECR	• Subsequent events

[A copy of the Financial Condition Report shall be published on the insurance group's website within 14 days of the date the report was filed with the BMA. If an insurance group does not have a website, the insurance group is to provide the public a copy of a Financial Condition Report within ten days of receipt of a request made in writing]

Contact us

Heldar Carreiro
Partner
Audit and Advisory
Deloitte Bermuda
T: +1 441 299 1308
E: Heldar.Carreiro@Deloitte.com

Kelvin Lam
Partner
Actuarial and Insurance Solutions
Deloitte Bermuda
T: +1 441 298 1111
E: Kelvin.Lam@Deloitte.com