BMA
BERMUDA MONETARY AUTHORITY

2025 Global Financial Crisis Stress Test – Long-Term Reinsurers

September 2025

Table of Contents

1. Executive Summary

Background and purpose

The Bermuda Monetary Authority (Authority or BMA) continues to monitor worldwide economic developments and assess the resilience of Bermuda's insurance market through regular stress testing exercises. As part of this ongoing commitment to financial stability, the BMA conducted a Global Financial Crisis (GFC) stress test for long-term commercial insurers[1] in Bermuda. Leveraging relevant work already undertaken at the International Association of Insurance Supervisors (IAIS), the stress test specifications in this exercise were calibrated based on the IAIS Aggregation Method (AM) Data Collection.[2]. The 2023 AM data collection included scenario analyses that were designed to replicate severe economic conditions similar to those experienced during the 2008 financial crisis.

This exercise aimed to evaluate the Bermuda long-term insurance sector's ability to withstand severe market shocks, assess recapture risk for reinsurers, and identify risk concentrations or other potential vulnerabilities worthy of further attention. The comprehensive stress scenario incorporated multiple risk factors, including interest rate shocks, credit spread widening, equity market decline, real estate devaluation and credit default events.

Key findings and sector resilience

The results of the GFC stress test demonstrate the Bermuda long-term reinsurance sector's strong ability to withstand severe economic challenges. The stress test revealed that the majority of insurers maintain capital levels well above regulatory requirements, even under severe stress conditions.

The sector maintained an average Enhanced Capital Requirement (ECR) coverage ratio of 347% post-stress, compared to a baseline of 424%. This represents a significant capital buffer above the 100% regulatory minimum, highlighting the sector's overall resilience. The median Enhanced Capital Requirement (ECR) coverage ratio declined from 270% to 215%, demonstrating that the majority of entities maintain substantial capital resources even after absorbing the impact of the stress scenario. This resilience is further evidenced by the fact that out of 106 participating entities, 75 entities (71%) maintained coverage above 150% and 103 (97%) either maintained an ECR coverage above 100% following the stress or had in place a highly credible management plan to restore their financial strength following the stress.

It is important to contextualise this result within the regulatory framework's design: the ECR itself represents a significant stress event. In this exercise, entities are effectively being subjected to two consecutive severe stresses: first, by the GFC market shock and then, by the additional stress embedded in the ECR calculation. Entities falling below 100%

[1] The terms ‘reinsurers’ and ‘insurers’ are used interchangeably in the report. The term ‘Long-term (re)insurers’ refers to Commercial insurers of class C, D and E.
[2] “Instructions for the April 2023 Aggregation Method (AM) Data Collection Exercise of the Monitoring Period Project”, 2023
https://www.iais.org/uploads/2023/06/Public-2023-AM-Data-Collection-Technical-Specifications.pdf

ECR coverage would only have insufficient assets to back their technical provisions following this double stress.

The stress scenario resulted in an average reduction of $397 million in available capital across the sector and an aggregate reduction of $39.3 billion, or 26%, of available capital. While this represents a substantial absolute amount, it reflects the sector's ability to absorb significant financial shocks while maintaining adequate capitalisation and represents a capital strain that, otherwise, would be borne significantly by cedents. The dispersion in impact reflects the diversity of business models and risk profiles within the Bermuda market.

Reinsurance recapture and management actions analysis

The stress test also evaluated the potential for deterioration in reinsurers' financial strength to reach levels that would trigger the ceding companies to have the ability to exercise their voluntary rights under the contracts. These rights include taking back all or some of the risks previously transferred to the reinsurers. Of the 106 submissions, the analysis identified three companies with reinsurance contract triggers or options that would potentially be breached under a stress scenario and which didn't identify sufficient management actions deemed credible to prevent a recapture. These treaties primarily involve insolvency or ECR-based triggers in the 100-120% range, which highlights the importance of maintaining capital buffers above the minimum regulatory requirements. Of these three companies, 1 wrote only affiliated business and their recovery plan was an orderly recapture. As part of ongoing supervision of the market, the Authority will be discussing the recovery plans with the remaining two companies, who represent about 2% of the total Bermuda long-term reinsurance reserves.

Conclusion and supervisory implications

The 2025 GFC stress test results provide important insights into the resilience of Bermuda's long-term insurance sector under severe economic conditions. The aggregate results demonstrate that the sector maintains adequate capital buffers overall with the majority of entities able to withstand the prescribed stresses being adequately capitalised and without experiencing recapturing events. This demonstrates that the current level of exposures and capitalisation does not present a threat to the financial stability of the Bermuda long-term market or the global life insurance market.

However, the report, also identifies several areas that warrant continued attention and monitoring. The stress test identified three entities whose management actions were insufficiently credible to prevent either their ECR coverage to fall below 100% or to prevent an opportunistic recapture of their reinsurance treaties, highlighting the importance of robust recovery planning and capital management frameworks.

Although these entities have identified management actions to address capital shortfalls, their feasibility and timing require careful supervisory assessment. This is particularly true in scenarios where multiple entities within the same group may be seeking additional parental capital support simultaneously. The BMA will be reviewing the results together with the recovery plans that were recently received under the new Recovery Plan

framework introduced in 2024[3]. More details on the reviews of the management actions in place are included in section 6 of this report.

The analysis also revealed varying levels of sensitivity to credit risk with some entities showing significant exposure to credit downgrades and deterioration. This underscores the need for companies to maintain enhanced credit risk monitoring capabilities and prudent management of credit concentrations, especially given the substantial allocation to BBB-rated assets observed in some portfolios.

The detailed asset and liability data obtained through this exercise will enable the BMA to refine its risk-based supervisory approach and focus resources on entities and risk areas that demonstrate greater vulnerability. Additionally, the treaty-level recapture analysis provides unprecedented insight into potential cross-border transmission channels that will inform future supervisory cooperation with international regulatory counterparts.

The BMA will continue to engage with industry participants to address the findings of this exercise while maintaining a regulatory framework that appropriately balances financial stability with the sector's continued development.

[3] The *Insurance (Prudential Standards) (Recovery Plan) Rules* were issued in 2024, followed by entity scoping and a guidance letter outlining expectations for recovery plan submissions. In 2025, the Authority released a Consultation Paper entitled *Guidance Notes for Recovery Planning Requirements* for commercial insurers, which builds upon the preliminary guidelines issued in 2024 by providing greater clarity on the standards set out in the Rules without introducing any new requirements.

2. Introduction and Scope

2.1. Background and Objectives

The BMA maintains strong oversight of global economic developments and their potential impact on Bermuda's insurance market. As part of this ongoing commitment to financial stability, the BMA conducted a severe stress test for long-term commercial reinsurers in 2025, which was based broadly on the stress exhibited during the 2008 GFC.

This exercise was designed with several key objectives in mind:

- First, to assess the resilience of the Bermuda long-term reinsurance sector in response to economic conditions with a severity similar to that experienced during the 2008 GFC. By applying consistent stress parameters across all participants, the BMA aimed to evaluate the vulnerability to severe market shocks of both individual entities and the aggregate sector

- Second, to gather data on the extent of recapture clauses within reinsurance treaties in the industry and their relevance in a severe financial stress

- Third, to inform the BMA's supervisory strategy by identifying areas that require enhanced oversight or regulatory attention. The granular data collected through this exercise provides valuable insights into emerging vulnerabilities and concentration risks

- Finally, to complement the existing stress testing performed by insurers as part of their regular risk management and regulatory compliance activities. While entities conduct both regulatory and internal stress tests as part of their risk management frameworks, this coordinated exercise provides a consistent benchmark across the market

The stress test specifications were calibrated based on the IAIS's Aggregation Method Data Collection exercise to ensure the test was in alignment with international best practices. The details on the calibrations of the stresses are included in section 3 of this report, while the resulting impacts on a Bermuda Economic Balance Sheet (EBS) basis are included in section 4. This approach reflects the BMA's commitment to maintaining regulatory standards consistent with global frameworks while addressing the specific characteristics of the Bermuda market.

The stress focuses on the capital impact of the economic shock. Impacts on liquidity or operational implications are not directly considered.

2.2. Scope and Participation

Participating Entities

The GFC stress test encompassed a substantial portion of Bermuda's long-term insurance market:

- 106 Bermuda commercial long-term insurers participated (see Table 2.1)
- Dual commercial insurers (those writing both long-term and general business) performed the test based on their complete balance sheet. However, those with immaterial long-term business have been excluded
- The participating entities represent $1,169 billion in total assets

Table 2.1 Long-term insurer participation levels

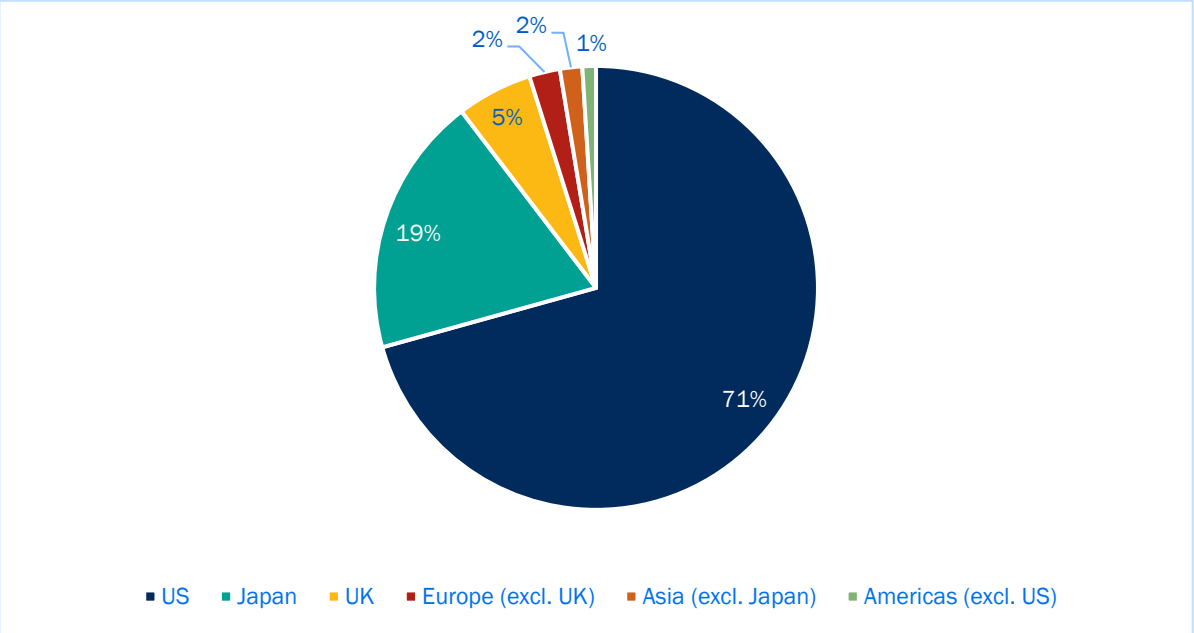
Licence class	Single licence	Dual licence	Total number of participants
Class C	38	5	43
Class D	2	1	3
Class E	51	9	60
Total	91	15	106

Based on the reinsurance reserves held by the Bermuda reinsurers, the geographic distribution of cedents was the following:

- 70.7% US
- 18.9% Japan
- 5.5% UK
- 2.2% Europe (excluding UK)
- 1.6% Other Asia
- 1.0% Other Americas

This distribution highlights that the majority of the Bermuda market business comes from North American and Japanese cedents, with modest exposure to the UK and very limited exposure to the rest of Europe. It should be noted that this paper focuses on reinsurance cedent exposure rather than the overall market policyholder exposure. This excludes direct insurance business, notably to Hong Kong.

Chart 2.1: Reinsurance Reserves by Cedent Jurisdiction[4]



Valuation date

The stress test was applied to balance sheets as of 31 December 2024[5], ensuring:

- Consistency with 2024 year-end regulatory filings
- ECR calculations that were based on audited year-end positions
- Alignment with entities' most recent comprehensive financial assessment

2.3. Governance and Quality Assurance

The BMA established the following governance requirements for the stress test submissions to ensure the reliability and comparability of results.

Required Approvals

All submissions were subject to multiple levels of review and approval:

- Chief risk officer or other board member sign-off was obtained
- Additional senior executive approval (typically from the chief executive officer or chief financial officer) was provided

[4] The chart rounds UK down to 5% so the numbers add to 100%.
[5] A very small number of entities have a different financial year-end date. To align with regulatory filings and audited positions, these entities have applied the stress at this date instead of 31 December 2024.

- A board or board committee review was conducted by a significant proportion of participants, reflecting the importance of the exercise in assessing capital adequacy and financial resilience

Quality assurance measures

The BMA implemented several quality assurance measures to enhance the reliability of the results:

- Independent validation by risk functions was required for all submissions
- Participants were encouraged to compare stress test results with their internal stress testing frameworks
- The BMA conducted a detailed review and challenge of submissions, including follow-up queries where necessary

3. Global Financial Crisis Stress Test Specifications

The GFC stress test represents a deliberately severe economic scenario designed to assess the resilience of Bermuda's long-term insurance sector under extreme market conditions. The purpose of applying such a severe stress is to identify potential vulnerabilities, assess the effectiveness of risk mitigation strategies and evaluate the sector's overall resilience. It provides valuable insights into how entities might respond to extreme market disruptions and helps identify any potential systemic risks.

3.1. Overview of Stress Scenario

The GFC stress test was calibrated by the IAIS based on financial market changes observed during the GFC, specifically between November 2007 and November 2008. For the Euro-zone, the sovereign debt crisis period was used as a reference point, as it was considered by the IAIS to be more relevant for those markets.

This comprehensive scenario assesses the impact on both available and required capital. The scenario applies multiple simultaneous stresses, including credit spread widening, a parallel downward shift in interest rates, and significant shocks to equity and real estate holdings within the asset portfolio. Additionally, the stress includes a substantial credit default component to reflect deterioration in asset quality that would likely accompany such a severe economic downturn.

The combination of these stresses creates a multifaceted scenario that tests multiple aspects of an insurer's balance sheet simultaneously. All stresses are applied instantaneously with no opportunity for portfolio rebalancing prior to the initial impact assessment, reflecting the sudden nature of financial market shocks during crisis periods.

The market risk stresses are included below. The credit default stresses are not included as they are different depending on the asset class, rating, duration, etc. These can be found in the IAIS Technical Specifications[6].

3.2. Interest Rate Stress

The interest rate stress component involves a parallel downward shift in risk-free yield curves across all currencies. The magnitude of the shift varies by currency, reflecting historical observations during the reference period and structural differences in interest rate markets.

[6] See https://www.iais.org/uploads/2023/06/Public-2023-AM-Data-Collection-Technical-Specifications.pdf and 2024-ICS-data-collection-Technical-Specifications.pdf

Table 3.1 Interest Rate Stress by Main Currencies

Currency	*Parallel shift*
USD	-1.47%
EUR	-1.29%
GBP	-1.08%
JPY	-0.68%
Other	Per IAIS specification

Application:

- **Scenario-Based Approach (SBA):** Each scenario was required to be reprojected with the stressed rates, ensuring a consistent application of the stress across all valuation methodologies
- **Risk Margin:** Recalculated based on adjusted Bermuda Solvency Capital Requirement (BSCR) and the stressed risk-free rates

3.3. Credit Spread Stress

The credit spread stress applies a widening of credit spreads across all fixed income assets, regardless of rating or duration. This reflects the market-wide flight to quality and the liquidity premium increases that are typically observed during financial crises.

Table 3.2 Credit Spread Stress by Currency

Currency	*Spread increase*
USD	+2.98%
EUR	+1.53%
GBP	+2.10%
JPY	+0.33%
Other	Per IAIS specification

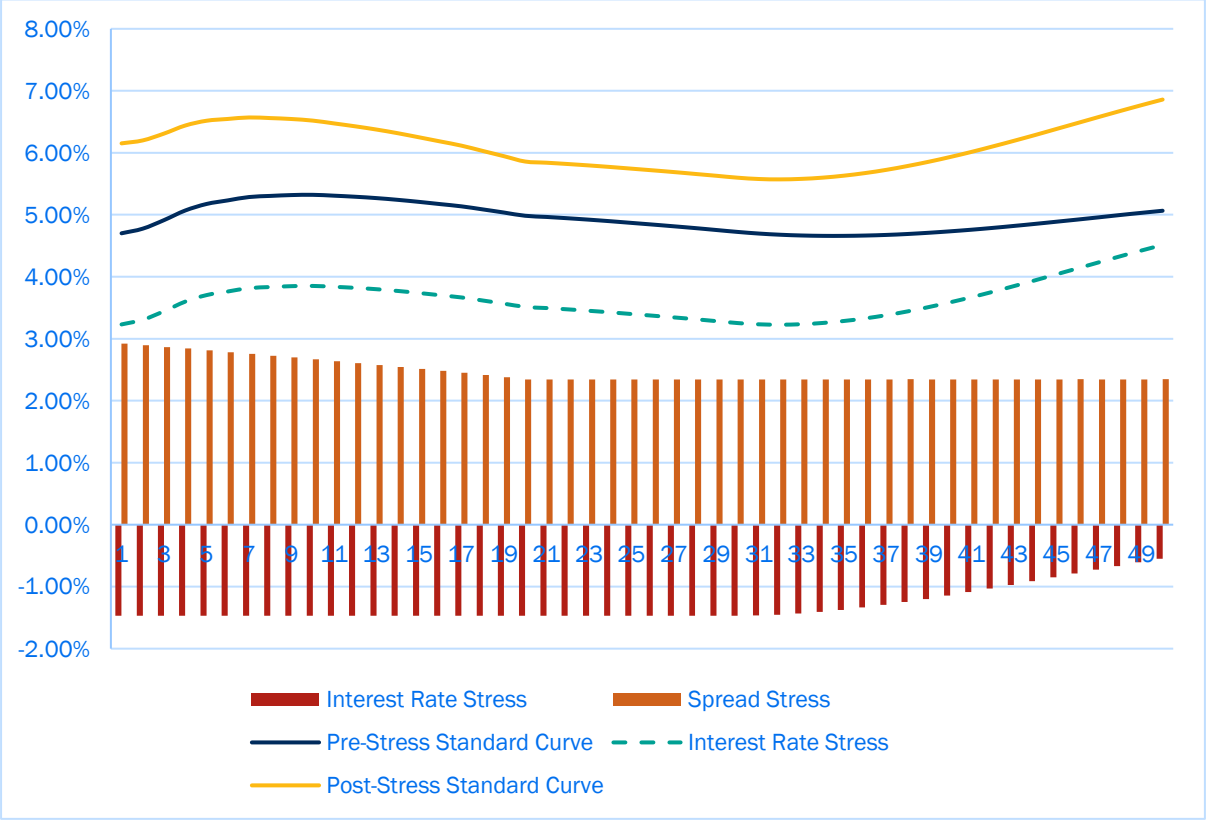
Standard Approach Liabilities:

- Revalued using BMA-provided stressed curves to discount the liabilities

- The stressed curve incorporates the interest rate parallel stresses shown above for the liquid portion of the curve (up to 30 years) but does not stress the ultimate forward rate. The interest rate stress for USD is shown in yellow bars in chart 3.1.
- The stressed curve then partially incorporates the credit spread widening. This is shown by the blue bars in chart 3.1.

The yield curves in chart 3.1 show the Standard Approach curve pre-stress (blue line, c. 5%) and post-stress (grey line, c. 6%). The orange dashed line shows the intermediate step where only the interest rates are stressed.

Chart 3.1: Impact on BMA Standard Approach USD Spot Rates (x-axis: maturity in years)



SBA Impact:

- **SBA portfolios:** The spread increase is largely offset by SBA mechanics for assets backing SBA liabilities, as the economic impact of spread widening is reflected in both asset and liability valuations
- **Credit risk emergence:** The impact is delayed until actual downgrades occur, which are addressed separately in the credit default component of the stress

The spread widening stress primarily affects the market value of corporate bonds, asset-backed securities and other credit-sensitive instruments. The impact varies significantly based on portfolio duration, credit quality and the matching of the asset to the liability cashflows.

3.4. Equity Stress

The equity stress component applies a substantial shock to equity holdings, reflecting the significant market declines observed during severe financial crises.

- **Developed market equities:** -45% shock to market values
- **Private equity:** Consistent treatment with public equity exposure, applying the same -45% shock[7]
- **Preferred shares/hybrids:** Stressed according to ICS specification factors, which vary based on the specific characteristics of the instruments
- **Real Estate Investment Trusts (REIT):** Treated as equity exposure with the -45% shock applied

This severe equity stress reflects the substantial market corrections that typically accompany financial crises, with impacts extending across both public and private equity markets. The uniform application across equity types ensures consistency in the stress impact.

3.5. Real Estate Stress

The real estate stress addresses both direct and indirect real estate exposures, reflecting the significant property market corrections that often accompany financial crises.

- **Direct real estate holdings:** A -25% valuation reduction applied to all commercial and residential property investments
- **Real estate funds:** Consistent treatment with direct holdings, applying the same -25% shock
- **Mortgage-backed Securities:** Subject to the credit default stress component separately, rather than the real estate stress

The real estate stress reflects the substantial property market corrections observed during the 2007-2008 financial crisis, particularly in commercial real estate markets. While less severe than the equity stress, the -25% reduction represents a significant shock to property valuations.

[7] Several participants provided feedback regarding the application of the -45% shock to alternative investments, particularly private equity and certain specialised investment funds. These participants noted that during historical stress periods, including the 2008 GFC, many alternative asset classes demonstrated greater resilience than public equities. They highlighted that the uniform -45% shock may overstate the impact on diversified alternative investment portfolios, which often exhibit lower volatility and correlation patterns compared to public markets. Some participants provided evidence from their own historical analysis suggesting that certain alternative asset categories —such as infrastructure investments, private credit and specialised private equity sectors — demonstrated significantly less drawdown during previous market corrections. Additionally, they noted that the illiquid nature of many alternative investments can insulate them from short-term market volatility. While acknowledging this feedback, the BMA maintained the consistent application of the -45% stress across equity types for this exercise to ensure comparability of results and to reflect the potential for correlation convergence during severe systemic stress events. Future stress testing exercises may consider more nuanced calibration.

4. Impact Analysis

This section examines how the GFC stress scenario affected the Bermuda long-term reinsurance sector. We analyse both the aggregate impact on capital positions and the specific drivers of financial deterioration across different asset classes and liability valuation approaches.

The analysis first presents overall results and distribution of impacts across participating entities. We then explore key drivers, including asset allocation decisions, differential effects across asset classes and the stabilising properties of Bermuda's regulatory framework. This provides insights into how different business models and risk management approaches performed under severe market conditions, offering valuable lessons for industry participants and regulators.

4.1. Aggregate Results Overview

4.1.1. Key Metrics

The Bermuda long-term reinsurance sector demonstrated considerable resilience in the prescribed GFC stress scenario. Despite the severity of the stress, which combined multiple adverse market conditions simultaneously, the sector maintained strong capital positions overall.

Key aggregate metrics from the stress test include:

- Baseline Average ECR Coverage: 424%
- Post-Stress ECR Coverage: 348%
- Average Available Capital Reduction: $397 million
- Entities Below 100% ECR (post-stress): 11 out of 106 participants

These headline figures indicate that while the stress scenario had a material impact on capital positions across the sector, the majority of entities maintained substantial capital buffers above regulatory requirements under severe stress conditions.

Table 4.1 ECR Coverage Ratio Statistics

	Pre-stress	Post-stress
Average	424%	348%
Median	270%	215%
Lower quartile	204%	144%
Upper quartile	364%	344%

The statistical distribution reveals important insights beyond the aggregate figures. The median ECR coverage ratio declined from 270% to 215%, indicating that a typical entity in the Bermuda market maintained more than twice the minimum required capital even after absorbing the full impact of the stress. The lower quartile figure of 144% post-stress

demonstrates that even among the more severely impacted entities (excluding those falling below 100%), substantial capital buffers remained.

The relatively modest decline in the upper quartile coverage ratio (from 364% to 344%) suggests that the most strongly capitalised entities were particularly resilient to the stress scenario.

Chart 4.1: Distribution of ECR Impact of Stress Test Across Entities (x-axis showing percentage point reduction ranges and y-axis showing number of entities in each range)

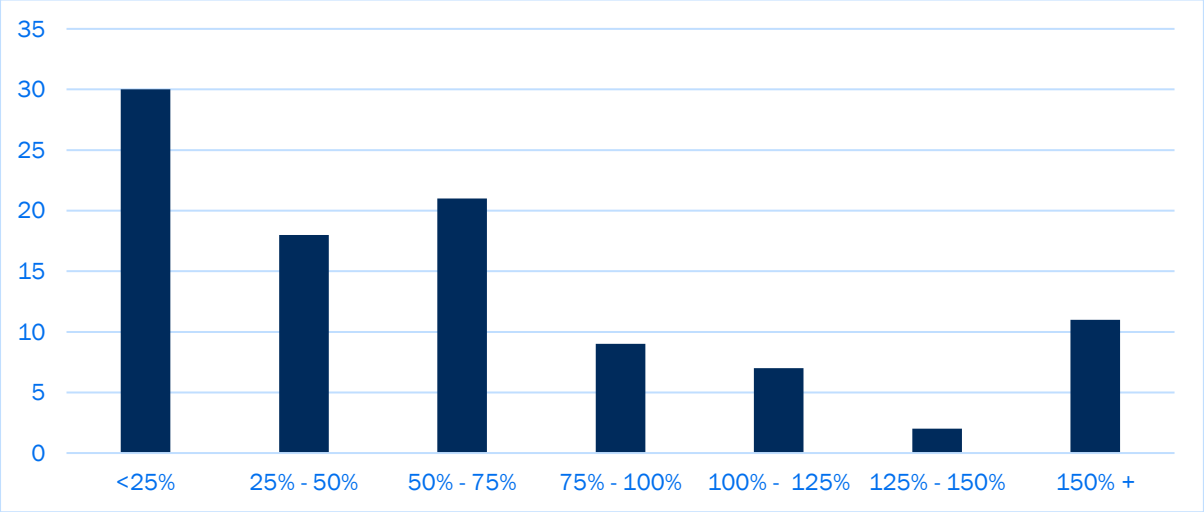
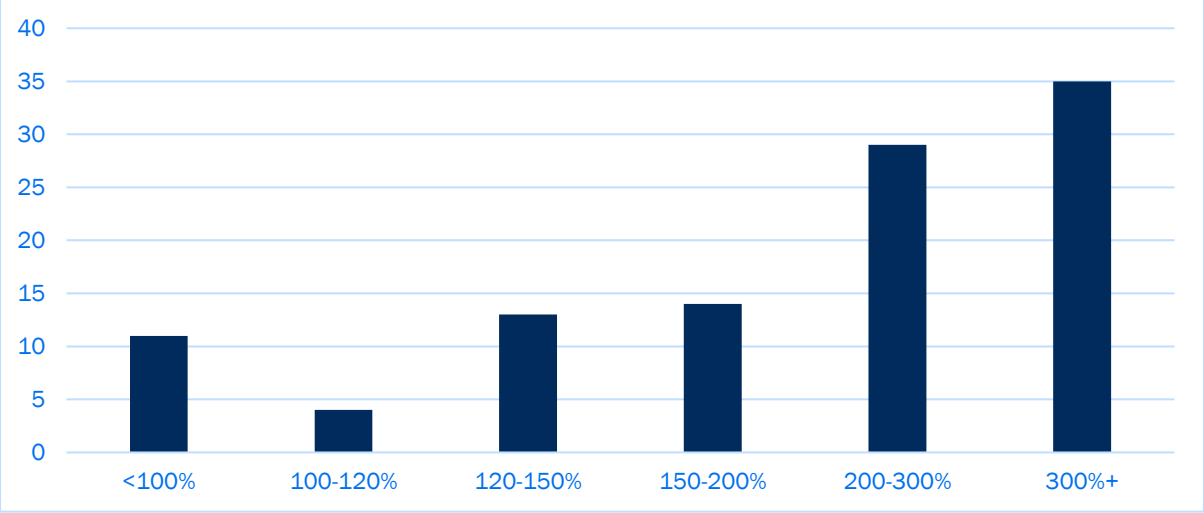


Chart 4.2: Count of ECR Post-stress (number of entities within different ECR coverage ratio ranges post-stress)



4.1.2 Distribution Analysis

A more granular analysis of the distribution of ECR coverage ratios before and after the stress provides additional insights into the sector's resilience. Table 4.2 includes the distribution of the ECR before and after the stress.

Table 4.2 ECR Coverage Distribution (number of entities)

ECR coverage range	Baseline	Post-stress
>200%	84	64
150-200%	20	14
120-150%	2	13
100-120%	0	4
<100%	0	11

Prior to the stress, the vast majority of entities (84 out of 106) maintained ECR coverage ratios exceeding 200% with no entities below 120%. Following the stress, 64 entities still maintained coverage above 200%, and 78 entities (approximately 74% of participants) maintained coverage above 150%.

The stress test showed that 11 entities had an ECR coverage below 100% following the GFC stress scenario and before any management actions. It is important to contextualise this result within the regulatory framework's design. In this exercise, entities are effectively being subjected to two consecutive severe stresses. The first stress is the GFC market shock. It is then followed by an additional stress embedded in the ECR calculation, as the ECR itself represents a significant stress event that is calibrated according to Bermuda's risk-based capital framework[8]. Before management intervention actions, those entities falling below 100% ECR coverage would only have insufficient assets to back their technical provisions following this double stress.

As detailed in section 6, most of the entities have identified credible management actions that they could implement in such scenarios, including asset rebalancing, liquidity facility utilisation, and, in some cases, parental support mechanisms that would restore capital positions to appropriate levels. Furthermore, these results will be reviewed in conjunction with the recovery plans recently received under the new Recovery Plan framework introduced by the BMA in 2024. It provides a comprehensive view of how these entities would respond to severe stress events. The BMA's initial assessment indicates that for the majority of companies at risk from financial stress, robust recovery plans are already in place, further supporting confidence in the sector's resilience. Further details are included in section 6 of this report.

The capital impact in absolute terms varied significantly across entities, reflecting differences in size, business models and risk profiles.

[8] The BSCR is calibrated to a target criterion that corresponds to a tail value at risk (TVaR) at the 99% confidence level over a one-year time horizon. This differs from some other regulatory regimes such as Solvency II, which uses a Value at Risk (VaR) at 99.5% confidence level. The TVaR measure captures the average of all outcomes in the worst 1% of cases, rather than just the 99th percentile point, providing a more comprehensive view of tail risk.

Table 4.3 Capital Impact (in $000s)

Reduction in:	Own funds	Free surplus
Average	471,970	397,084
Median	120,547	101,084
Lower quartile	13,132	14,545
Upper quartile	296,196	301,677

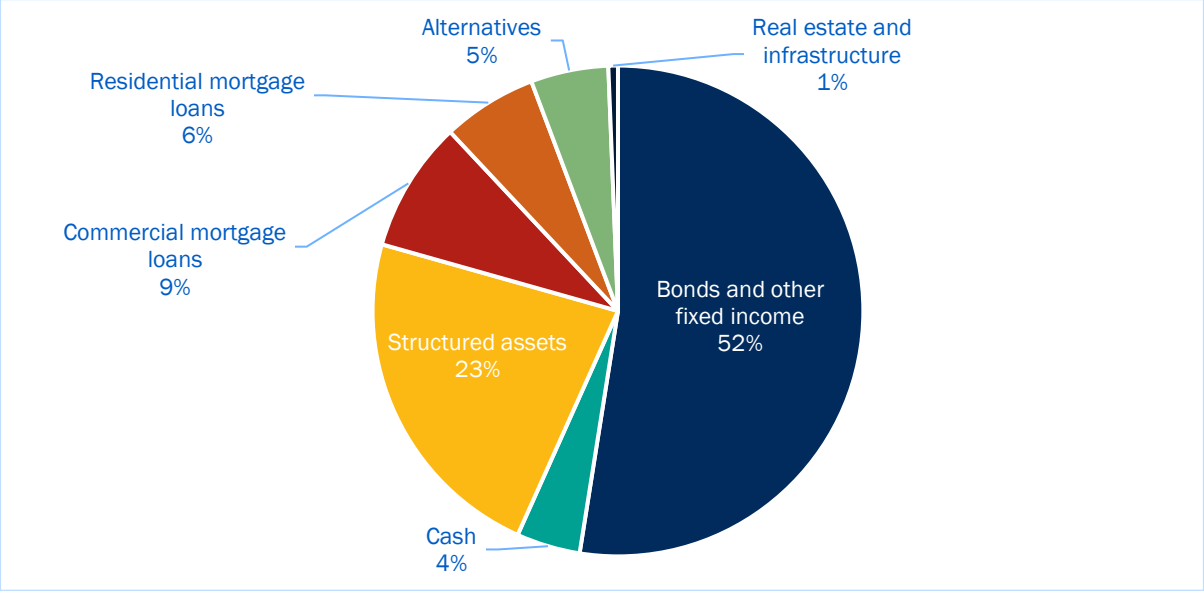
As can be seen in the table above, the wide dispersion between the median and average figures indicates that the capital impact was not evenly distributed, with some larger entities experiencing more significant absolute reductions. However, a similar pattern is observed in both the entities' own funds and their free surplus reductions, which suggests that entities generally maintained their capital structures through the stress.

4.2. Drivers Impact Analysis

4.2.1. Asset Allocation

The stress test provided valuable insights into asset allocation patterns across the Bermuda long-term reinsurance sector and how different investment strategies performed under stress.

Chart 4.3 Average Asset Allocation



The asset allocation analysis reveals that Bermuda reinsurers maintain diversified investment portfolios with significant weighting toward fixed income securities. These conservative allocations helped mitigate the impact of the equity and real estate stresses,

although it did increase exposure to the interest rate and credit spread components of the stress.

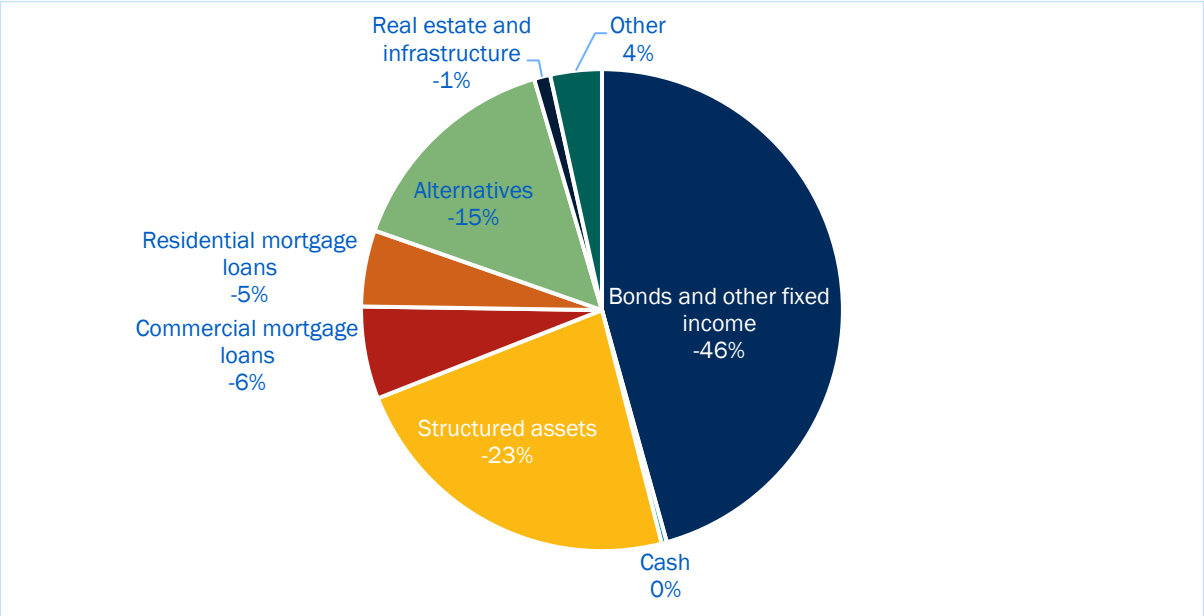
4.2.2. Asset Stress Analysis

Table 4.4 Stress Contribution per Asset Class

Asset class	Pre-stress ($B)	Post-stress ($B)	Stress impact (absolute)	Stress impact (relative)	Contribution to stress
Total assets	1,388.3	1,263.5	-124.8	-9%	100%
Bonds	613.6	552.4	-61.2	-10%	49%
Cash	49.1	48.6	-0.5	-1%	0%
Structured assets	265.0	234.1	-30.9	-12%	25%
Commercial Mortgage Loans	100.9	92.6	-8.3	-8%	7%
Residential Mortgage Loans	72.9	66.1	-6.9	-9%	5%
Alternatives	59.7	39.5	-20.2	-34%	16%
Real estate and infrastructure	7.4	5.9	-1.5	-20%	1%
Other	219.6	224.3	4.6	2%	-4%

The GFC stress test had a significant impact on invested assets across Bermuda's long-term insurance sector, with total assets declining by $124.8 billion. This represented a 9% reduction from the pre-stress position. This impact was not evenly distributed across asset classes: this was reflected both in the relative vulnerability to different stress components and the proportion within overall portfolios.

Chart 4.4 Stress Impact by Asset Class



As can be seen in the chart above, bonds and other fixed-income assets experienced the largest absolute impact with a reduction of $61.2 billion (10% of pre-stress value). This substantial impact reflects both the sector's large allocation to fixed-income securities and the combined effect of the interest rate and credit spread stresses. The parallel downward shift in interest rates (ranging from -0.68% for JPY to -1.47% for USD) had offsetting effects on bond values, while the significant credit spread widening (ranging from +0.33% for JPY to +2.98% for USD) drove most of the valuation decline. This asset class represented approximately 49% of the total absolute stress impact across all categories.

Structured assets showed the second largest absolute impact with a reduction of $30.9 billion (12% of pre-stress value). This slightly higher relative impact compared to traditional bonds reflects the potential greater sensitivity of structured securities to credit spread widening and potential downgrades in the underlying collateral quality. The stress test specifications applied credit default stresses calibrated to 50% of the Insurance Capital Standard (ICS) credit risk capital factors. This particularly affected structured products with longer durations or lower credit quality.

Alternative investments experienced the most severe relative impact with a reduction of $20.2 billion, representing a 34% decline from pre-stress values. This pronounced effect is consistent with the equity stress component of the scenario, which applied a uniform 45% reduction to equity holdings. Some participants noted that this approach may be onerous for certain alternative investments that have historically demonstrated greater resilience than public markets during stress periods. However, the consistent application ensured a conservative assessment of potential market impacts. Despite this severe relative impact, the reduction in this asset class only contributed around 16% of the total stress due to relatively conservative allocations to this asset class.

The consistent application of the -45% stress across public and private equity exposures generated debate among participants with some noting that certain alternative investments have historically demonstrated much greater resilience during market downturns. While several participants expressed concern that the uniform -45% shock might overstate the impact on diversified alternative investment portfolios, the BMA maintained this approach to ensure consistency and reflect the potential for correlation convergence during severe systemic stress events.

Commercial and residential mortgage loans showed moderate impacts of $8.3 billion (8%) and $6.9 billion (9%), respectively. The relatively contained stress impact on these assets reflects their secured nature and the application of loan-to-value dependent stress factors as specified in the stress test methodology. Commercial mortgages benefited from generally conservative underwriting standards across the sector while residential mortgages demonstrated resilience due to their typically high credit quality.

Real estate and infrastructure investments declined by $1.5 billion, representing a 20% reduction from pre-stress values. This impact directly reflects the 25% valuation reduction applied to direct real estate holdings as specified in the stress test. The slightly lower observed impact (20% versus the specified 25%) likely results from the inclusion of infrastructure investments in this category, which may have exhibited different stress characteristics.

The real estate component of the stress had a relatively modest impact on the sector overall, reflecting limited direct exposure to this asset class.

- **Limited sector exposure:** Real estate holdings represent a relatively small portion of total invested assets across the Bermuda long-term reinsurance sector

- **Valuation challenges:** Some entities noted practical difficulties in applying the -25% shock, particularly for specialised or illiquid real estate investments where market valuations are less transparent

- **Indirect exposures**: REITs and real estate funds were included in the equity shock rather than the real estate stress, resulting in a more severe -45% stress for these indirect exposures

Cash holdings showed minimal impact with a reduction of just $0.5 billion (1% decrease), demonstrating the expected stability of this asset class even under severe stress conditions. This stability underscores the value of maintaining appropriate liquidity buffers as part of an overall investment strategy.

Interestingly, the 'Other' category showed a positive movement of $4.6 billion (2% increase). This may reflect the impact of derivative positions, hedging strategies or other counter-cyclical assets that performed positively under the stress conditions.

Overall, the results validate the calibration of the stress test, with the observed impacts aligning well with the severity of the applied stresses across different risk factors.

4.2.3. Volatility Dampening

The credit spread widening component of the stress revealed important dynamics in how different liability valuation approaches respond to market stresses.

- **SBA offset:** SBA portfolios experienced lower net impact initially from spread widening than non-SBA portfolios as the economic impact was reflected in both asset and liability valuations. This shows the nature of the SBA in mitigating procyclicality in recognition of the thorough ALM requirements, which reduce economic sensitivity to credit spread volatility

- **Non-SBA portfolios:** Entities with substantial non-SBA portfolios experienced greater volatility in the capital impact. The assets experienced direct reductions in value from the credit spread widening, while the liabilities reduced by a different amount through the application of the standard approach curve based on a portfolio of corporate bonds representative of the entire industry. Whether the resulting capital impact was positive or negative depends on the differences between the entity's asset portfolio and the benchmark portfolio used to construct the curve

- **Credit risk emergence:** The full impact of credit deterioration was delayed until actual downgrades occurred. These were addressed separately in the credit default component of the stress

- **Reinvestment assumptions:** The stress required entities to apply stressed spreads to future cashflow disinvestment and reinvestment assumptions, which affected projected returns, particularly for long-duration business. The stress particularly penalised portfolios with disinvestment requirements since assets would be sold at the elevated spread levels

The results highlight an important feature of the SBA regime: its design to reduce procyclicality. The SBA framework demonstrates adequate but prudent solvency-dampening effects during market stress events as changes in credit spreads affect both asset and liability valuations. This contrasts with regimes where spread widening immediately and uneconomically impacts asset values without some degree of liability relief, potentially creating pro-cyclical effects during market downturns.

When examining the impact of individual stress components on SBA portfolios, a nuanced picture emerges:

- **Credit spread widening:** Under the SBA framework, when credit spreads widen (in this stress, by +0.33% to +2.98%, depending on currency), the discount rate applied to liabilities increases correspondingly, which reduces liability values together with asset values. This creates a natural hedge that substantially mitigates the net balance sheet impact. Analysis of participant data reveals that for pure spread widening, on average, 73% of the asset value reduction was offset by corresponding liability reductions for SBA portfolios. This mechanism mitigates the risk of uneconomic and artificial declines of capital positions during periods of market illiquidity when spreads widen without fundamental deterioration in credit quality

- **Interest rate movements:** The SBA framework also provides protection against interest rate movements, although to a somewhat lesser degree than for spread changes. The downward parallel shift in interest rates (ranging from -0.68% for JPY to -1.47% for USD) increased liability values, but this was partially offset by corresponding increases in fixed income asset values. The effectiveness of this natural hedge varied significantly based on the duration matching precision, with more sophisticated ALM programs achieving better offset ratios. Entities with more material duration mismatches experienced more substantial net impacts, highlighting the continued importance of duration management even within the SBA framework

- **Credit default/downgrade risk**: In contrast to spread widening, the SBA framework provides limited protection against actual credit deterioration. When assets experience ratings downgrades or default events (as simulated by the 50% of ICS credit risk capital factors in this stress), the resulting asset impairments cannot be offset through liability valuation adjustments. This asymmetry appropriately reflects that fundamental credit deterioration represents a realised economic loss rather

than a temporary market fluctuation. The stress test revealed that entities with higher concentrations of BBB-rated assets or significant exposure to vulnerable sectors experienced material capital erosion from this component

- **Equity and alternatives stresses:** The SBA framework offers minimal protection against equity and alternatives stresses. These asset classes typically represent a small portion of SBA-eligible assets, and their value movements do not generate corresponding liability adjustments. Consequently, losses in these asset categories translated almost directly to capital erosion

This analysis highlights that the SBA achieves an important balance by providing adequate protection against market volatility while still recognising genuine economic losses from fundamental asset deterioration. Entities that demonstrated a sophisticated understanding of these dynamics generally showed more resilient stress performance because they structured their asset portfolios to match future liabilities both in expected amounts and timings, while also managing financial risks effectively and minimising exposure to (credit) risks.

The liabilities determined by the Standard Approach also typically showed higher sensitivity to the interest rate stress compared to SBA portfolios, where the impact was partially mitigated through the SBA mechanics.

4.2.4. Credit Default Risk

The credit default component of the stress revealed important insights about the quality and diversification of fixed income portfolios across the sector.

- **Asset quality dependency:** Entities with higher-rated portfolios generally experienced lower impact from the credit default stress, demonstrating the value of maintaining strong credit quality

- **Diversification benefits:** Well-diversified portfolios showed greater resilience with concentration in specific issuers or sectors, leading to more significant impacts

- **Mortgage exposure:** Residential mortgages showed varied impact by Loan-to-Value (LTV) ratios, with higher-LTV loans experiencing more substantial stress effects

- **Commercial mortgages:** The rating-dependent stress application for commercial mortgages highlighted the importance of underwriting quality and collateral values in determining resilience

5. Reinsurance Exposure Analysis

The exercise collected information on reinsurance treaties from each participant. Of the 106 participants, 20 recorded no reinsurance treaties. These are primarily entities that write direct long-term business or write small amounts of long-term business ancillary to their primary P&C business.

The stress test included a detailed analysis of reinsurance exposure by cedent jurisdiction, providing insights into potential cross-border transmission of financial stress. The following sections provide an overview of the entire market and then focus on the top three most material cedent jurisdictions, which represented 95% of the reinsurance treaties collected. Similarities and differences in structures from those typical in Bermuda were also highlighted.

As the top three most material jurisdictions also write the majority of Asset Intensive Reinsurance (AIR), the average asset composition of reinsurers facing each of these jurisdictions is also compared to the long-term market average.

5.1. Treaty Portfolio Overview

The data call requested treaty-level submissions; however, some participants noted that the number of individual small reinsurance treaties held was very high; therefore, some had been aggregated by cedent or cedent jurisdiction.

Key aggregate metrics from the data call include:

- **Total treaties analysed**: 657 across 86 participating entities
- **Total reserve balance**: $601.3B
- **Average treaties per entity**[9]: 7.6
- **Largest individual treaty**: $24.7 billion in reserves
- **Treaty concentration**: Top 10 treaties represent 29.3% of total reserves

5.1.1. Cedent Jurisdiction

The US makes up a significant majority of the Bermuda reinsurance market, reflecting both its geographic proximity to Bermuda and the fact that it is the largest insurance market in the world. It also has a very mature domestic reinsurance market. Japan and the UK are also mature and globally significant insurance hubs, which explains their presence in the table of top exposures.

[9] This is an under-estimation due to the aggregation of treaties by some participants

The table below excludes 35 treaties across 16 reinsurers where the cedent is in Bermuda to avoid double counting the exposures.

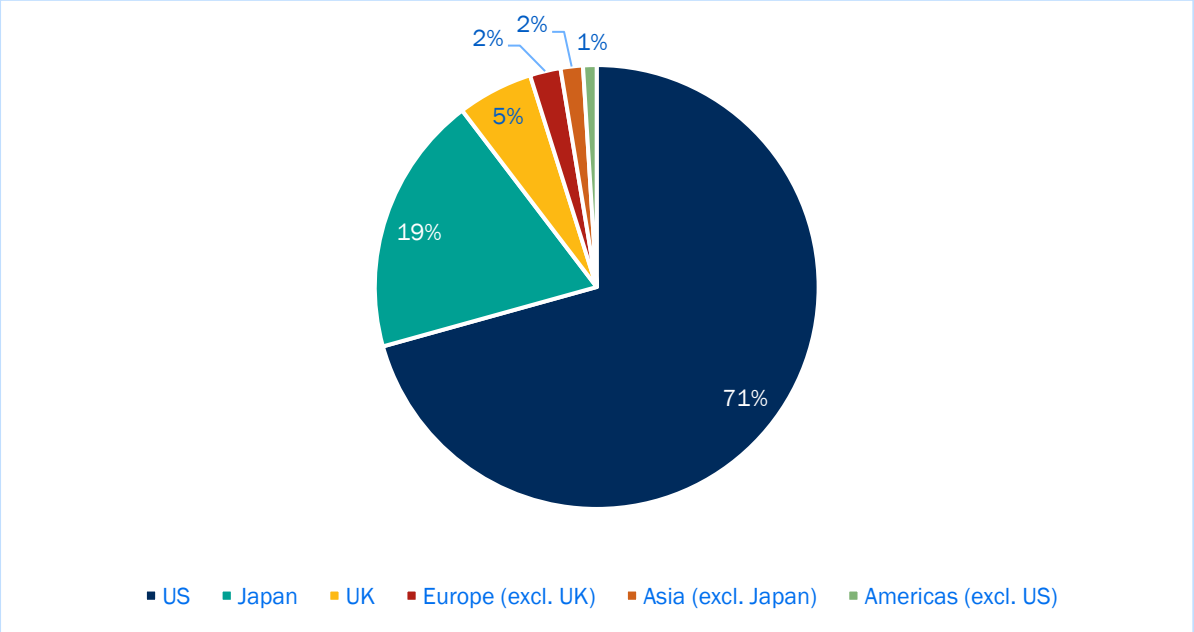
Table 5.1 Cedent Distribution by Jurisdiction

Jurisdiction	Number of treaties[10]	Number of reinsurers	Reserve balance ($B)	Percentage of total
US	265	55	396.0	71%
Japan	86	19	106.1	19%
UK	37	12	30.9	6%
Continental Europe	59	33	12.5	2%
Other Asia	149	55	9.1	2%
Other Americas	20	9	5.7	1%
Total	617	183	560.2	100%

It should be noted that the table represents the jurisdiction of the reinsurance cedent. This is different from the jurisdiction distribution of policyholders, which would include primary insurance policies, most notably those in Hong Kong. For a minority of reinsurance treaties, the jurisdiction distribution of policyholders may also be different from the jurisdiction of the cedent.

The total number of reinsurers exceeds the number of submissions since many Bermuda long-term reinsurers operate in multiple jurisdictions.

Chart 5.1 Reinsurance Reserves Distribution by Cedent Jurisdiction



[10] This is an under-estimation due to the aggregation of treaties by some participants

5.1.2. Collateral and Asset Holding Structures

Previous BMA publications, such as the *Collateral Structures in the Bermuda Long-term Insurance Market*[11], have highlighted that a significant majority of long-term reinsurance is conducted on a collateralised basis through structures such as Funds Withheld (FWH) or Modified Coinsurance (ModCo). This is expected as FWH and ModCo are common in the US market, which accounts for a significant majority of the Bermuda long-term market assets.

Table 5.2 Asset Holding Structures

Structure type	Number of treaties	Reserve balance ($B)	Percentage
Coinsurance with FWH	154	250.6	42%
ModCo	65	179.2	30%
Other collateral arrangements	46	59.6	10%
Pure coinsurance	326	55.6	9%
Trust account	66	56.4	9%
Total	657	601.3	100%

These collateral structures are designed to mitigate reinsurance counterparty default risk and form the majority of the reinsurance reserves within the Bermuda market. Nearly 50% of treaties are reinsured on a pure coinsurance basis. They represent the more traditional reinsurance products that are not asset intensive such as mortality or longevity reinsurance. This is expected as the need to collateralise is much less for treaties that are not asset intensive and they represent much smaller reserve balances. In combination, the different distributions between the number of treaties and the reserve balances for different holding structures evidence the diversification of arrangements and products within the Bermuda market.

5.1.3. Exposure to recapture

Many reinsurance treaties contain provisions that give the cedent a voluntary option to reclaim the reinsured risks. Typically, these options are triggered in the event of operational issues (such as non-payment), but some reinsurance treaties, particularly in asset-intensive treaties, also contain triggers related to the financial strength of the reinsurer. These treaties primarily involve insolvency or ECR-based triggers in the 100-150% range, highlighting the importance of maintaining capital buffers above minimum regulatory requirements.

It is important to note that these triggers provide the cedent with the ability to exercise its voluntary rights under the contracts to take back some or all the risks previously transferred to the reinsurer. The cedent may conclude that a recapture is not the best

[11] https://cdn.bma.bm/documents/2024-09-06-12-10-21-Bermuda-Long-Term-Insurance-Collateral-Structures.pdf

option where the trigger is set at a higher level (such as at an ECR ratio of 150%) or where the reinsurer is an affiliate. The stress test evaluated the potential for a deterioration in reinsurers' financial strength to reach these trigger levels. The analysis identified 12 companies out of 106 submissions with reinsurance contract triggers or options that could potentially be breached under the stress scenario. Of these 12 companies, eight had contractual arrangements sufficient to restore their financial strength. Of the remaining four companies, one only writes affiliated business, and one has only Bermuda-domiciled cedents, which demonstrated much greater financial resilience.

Therefore, the stress test demonstrated that, net of management actions, the risk of a large number of reinsurance contracts' recapture provisions being exercised is low and not systemically relevant at this stage.

5.2. US Cedents

US cedents represent a significant majority of the Bermuda long-term reinsurance market. Of the total reinsurance reserves captured within this exercise, 71%, $396 billion, was ceded from US companies. This represents around 4.5% of the $8.8 trillion total life insurance liabilities[12].

This section focuses on the 48 different reinsurers within Bermuda with positive reserves[13], totalling $399 billion. Of these, five reinsurers exhibited sufficient financial stress that if no management actions were taken, some treaties may be subject to the cedent exercising their recapture rights. The management actions are discussed in section 6, which include effective contractual mitigants in four out of five of the reinsurers. The remaining reinsurer wrote only affiliated business and considered an orderly recapture a plausible strategy.

Of these treaties at risk of recapture, 80% of the reserves are ceded from affiliated cedents, which are more likely to financially support the reinsurer and are less likely to opportunistically recapture the business. This compares to the overall proportion of US reserves, which are 58% ceded from affiliated or connected cedents.

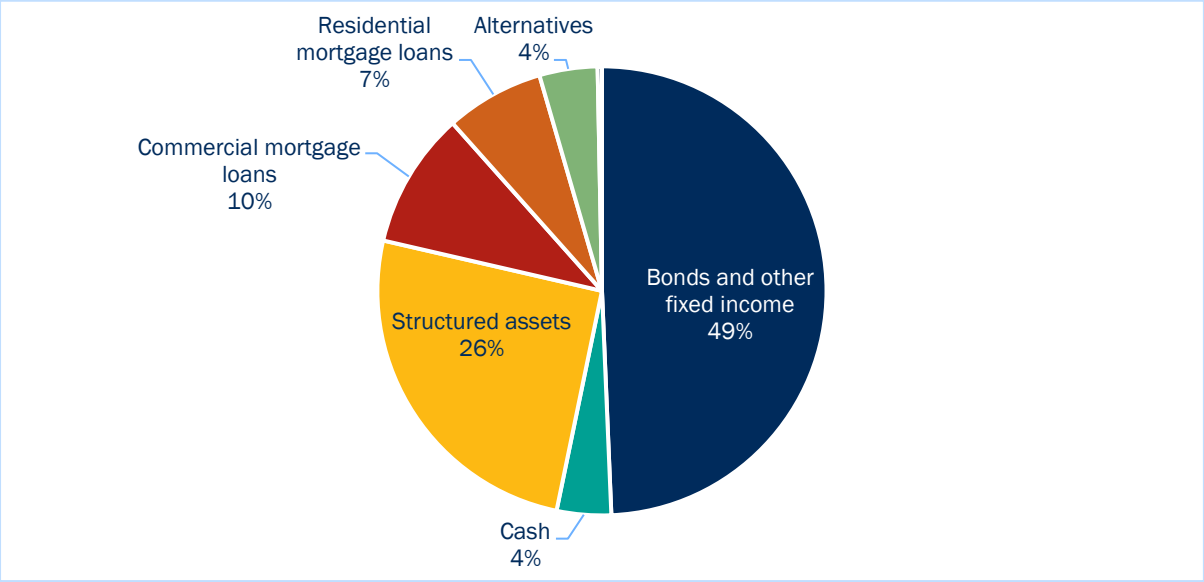
FWH and ModCo structures are common in the US market, and 89% of the reserves ceded from US companies are held in these structures.

To further protect the cedent from possible reinsurer financial distress, 27 of the reinsurers with US cedents had recapture triggers ahead of insolvency. This represents 55% of the total US long-term reserves reinsured by Bermuda entities. Solvency-triggered termination rights range from 150% to 107% with a weighted average of 126%.

As the US makes up such a significant proportion of the Bermuda long-term industry, the asset allocation for reinsurers with US cedents is similar to the long-term industry average.

[12] https://content.naic.org/sites/default/files/2024-annual-life-industry-commentary.pdf
[13] Seven reinsurers reported net negative reserves ceded from US cedents. These are included in market totals but not in the jurisdiction-specific sections.

Chart 5.2 Average Asset Allocation for US Cedents



5.3. Japanese Cedents

Japanese cedents represent a relevant portion and growing element of the Bermuda long-term reinsurance market. Of the reinsurance reserves captured within this exercise, $106 billion (19%) was ceded from Japanese companies, which corresponds to around 5% of the $2.6 trillion total insurance reserves[14] in Japan.

Of the 18 reinsurers with Japanese cedents, three reinsurers exhibited sufficient financial stress that if no management actions were taken, some treaties may be subject to the cedent exercising their recapture rights. All three reinsurers had effective contractual mitigants in place to sufficiently restore their financial strength and negate the cedents' right to exercise a recapture.

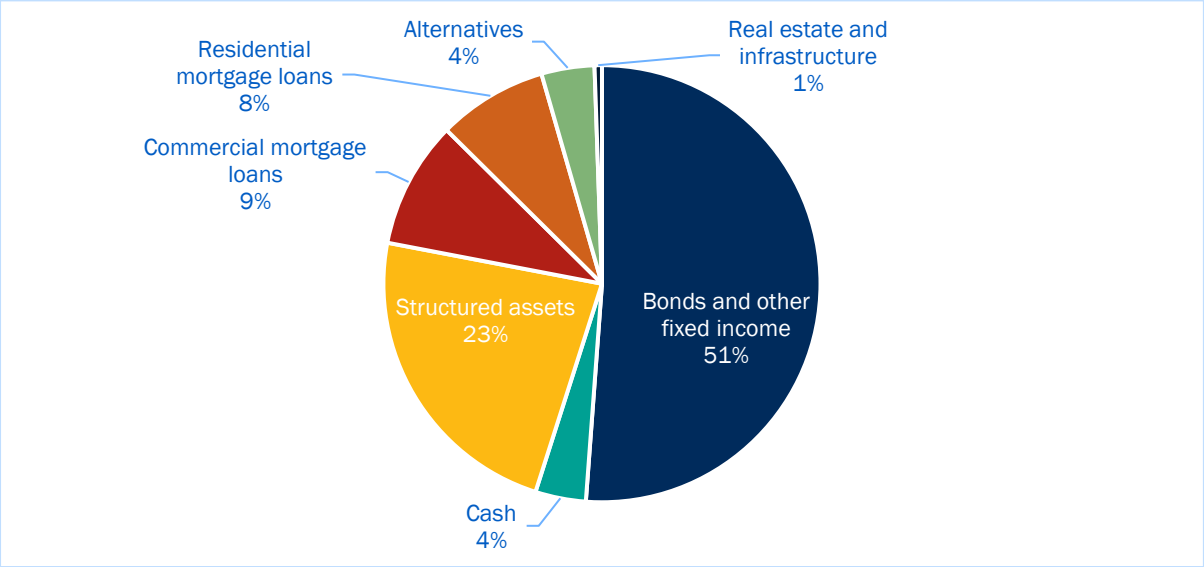
Of these treaties at risk of recapture, 56% of the reserves are ceded from affiliated or connected cedents, which are more likely to financially support the reinsurer and are less likely to opportunistically recapture the business.

To further protect the cedent from possible reinsurer financial distress, 10 of the reinsurers with Japanese cedents had recapture triggers ahead of insolvency. This represents 36% of the total Japanese long-term reserves reinsured to Bermuda. Solvency triggered termination rights range from 130% to 110% with a weighted average of 123%.

Of the total reserves, 66% are ceded from affiliate or connected parties, where the cedent will have a greater degree of control and oversight of the reinsurer, providing additional security. This proportion is slightly higher than the average for the total Bermuda long-term market of 59%.

The asset allocation for reinsurers with Japanese cedents is similar to the long-term industry average, with approximately half in bonds and a quarter in structured assets.

Chart 5.3 Average Asset Allocation for Japanese Cedents



5.4. UK Cedents

The UK constitutes a comparatively small market for Bermuda reinsurers when compared with both the overall scope of Bermuda's operations and the scale of the UK insurance sector. Of the reinsurance reserves captured within this exercise, 6% was ceded from UK companies, which corresponds to around 1% of the $2.8 trillion total life insurance liabilities.

A sizeable proportion of these reserves are held by an affiliate reinsurer of an Internationally Active Insurance Group headquartered in the UK, while the remaining nine reinsurers with UK cedents and positive reserves[15] write only third-party reinsurance.

Five reinsurers had recapture triggers ahead of insolvency, representing 46% of the total reserves ceded to Bermuda from third-party insurers in the UK. Solvency-triggered termination rights range from 130% to 110% with a weighted average of 118%.

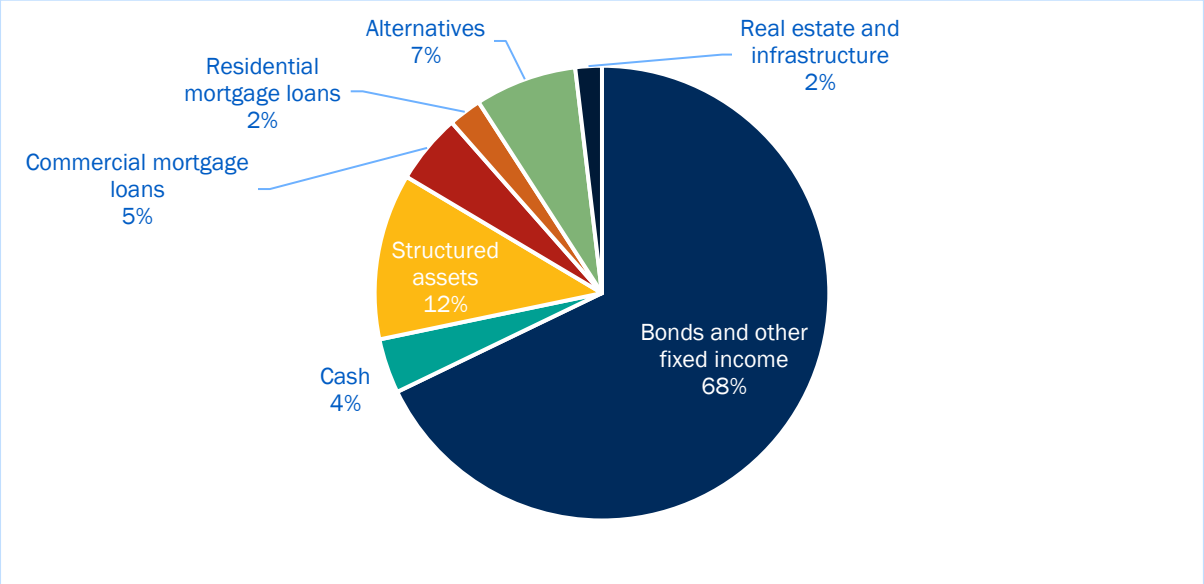
Following the stress and before any management actions, none of the reinsurers fell below their recapture triggers or below the 120% level, which might trigger regulatory intervention. For some companies, this reflects the high level of starting capitalisation while, for others, it reflects the conservative and resilient nature of their balance sheet.

Excluding the affiliated reinsurer, the reserves ceded from the UK are part of a highly diversified portfolio. The median reinsurer held just 14% of its total insurance reserves in favour of UK cedents with the remaining 86% held for cedents in other jurisdictions.

[15] Two reinsurers reported net negative reserves ceded from UK cedents. These are included in the market totals but not in the jurisdiction-specific sections.

The asset allocation for reinsurers with UK cedents is more traditional than the Bermuda long-term industry average. The allocation has higher allocations to bonds (68%) than the industry average (52%) and lower allocation to structured assets (12%) than the industry average (23%).

Chart 5.4 Average Asset Allocation for UK Cedents



These asset allocations are highly reflective of the more prescriptive investment guidelines typically found in UK reinsurance treaties and reflective of the cedent's typical asset allocation. Analysis of many of these treaties highlights a number of specificities that are uncommon to other jurisdictions, including:

- It is very common to include a list of issuers that are ineligible as collateral to avoid increased concentration risk in the event of a recapture. Usually, this list of issuers would relate to affiliates of the cedent or other reinsurance counterparties of the cedent

- Restrictions on the investment currency are ubiquitous, typically restricted to GBP, USD and EUR, although some permit other G7 currencies. Some also restrict the total proportion invested outside GBP

- Private, alternative and structured asset allocations are typically restricted to 10% or 30% of the portfolio, if permitted at all

- Below Investment Grade (BIG) assets are commonly restricted to a maximum of 10% of the portfolio

The minimum average credit rating of the portfolio is usually specified between BBB+ and A- levels

The calculation of the required collateral is also often more complex than that found in reinsurance treaties with other jurisdictions. In a significant number of UK treaties, the

asset composition drives the valuation of the collateral; higher-yielding assets can be used to reduce the required collateral value, while higher-risk assets can increase the required collateral. The methodology is often akin to the calculation of the UK matching adjustment used by the majority of UK cedents. It also has similarities with a minimal number of US treaties, which require Asset Adequacy Testing (AAT) to be performed on the collateral portfolio. However, the UK treaties are typically much more prescriptive about the level of haircuts that should be applied to each asset.

These restrictions reflect the UK cedent's high degree of focus on the risk of recapturing a portfolio of assets, which might be considered unsuitable (namely, not eligible for the UK matching adjustment), difficult to transition or outside of their expertise.

6. Management Actions Analysis

6.1. Overview of Management Actions

6.1.1. Participation and Approach

Management actions were provided primarily by the 12 companies that exhibited sufficient financial stress to require some action to avoid insolvency or treaty recapture. Of these 12 companies, eight had contractual arrangements sufficient to restore their financial strength and prevent recapture where necessary, and a further two had either already implemented management actions to improve their financial strength or planned an orderly recapture to an affiliate. Overall, the risk of opportunistic or disorderly recapture of risk by cedents is low and not systemically relevant at this stage.

6.1.2. Categorisation by Timing

Table 6.1 Management Actions by Time Horizon

Timing category	Total number of actions	Contractually agreed	Soft commitments	Other actions
Immediate (≤1 week)	2	2	0	0
Short-term (1-4 weeks)	10	7	3	0
Medium-term (1-3 months)	7	1	0	6
Longer-term (3-6 months)	1	0	0	1

6.2. Types of Management Actions

6.2.1. Capital Management Agreement (CMA)

The key features of the CMAs identified were:

- **Prevalence:** Four of the 12 participants had a CMA or equivalent in place, with a further one in the process of agreeing on one. The timing of the capital injection varied between the immediate and short-term categories
- **Purpose:** A contractual arrangement with a financially strong counterparty (typically a parent or sponsor) to restore the ECR ratio to within risk appetite
- **Scope:** Injection of cash or other high-quality assets

- **Triggers:** ECR ratio falling below a specified threshold

6.2.2. Credit Facility Utilisation

The key features of credit facilities identified were:

- **Prevalence:** Three participants had access to committed facilities
- **ECR impact:** In all three cases, the credit facility was sufficient to restore the ECR ratio to prevent recapture

6.2.3. Soft Capital Commitments

The key features of the soft capital commitments identified were:

- **Prevalence:** Three participants had a recovery plan to seek additional capital from existing shareholders
- **Concerns:** While the existing shareholders have pre-agreed to inject additional capital, the agreement for this to be used to restore financial strength instead of grow the business is untested. In some cases, this capital is not ring-fenced for a single entity and so may be diverted to support other insurance entities in such a financial stress

6.2.4. Other Capital Management Actions

Other capital management actions were identified, including:

- **Portfolio Actions:** Four participants assumed they would be able to rebalance their asset portfolio or seek additional regulatory approvals to use assets to improve their financial condition
- **Dividend Suspension:** Two participants assumed dividend suspensions/recalls
- **Orderly Transfer:** Two participants had in place a plan for an orderly recapture or retrocedence of specific treaties to affiliate entities

7. Conclusions

The 2025 GFC Stress Test provides valuable insights into the resilience of Bermuda's long-term reinsurance sector under severe market conditions. Based on the comprehensive analysis presented in this report, several key conclusions emerge:

Sector resilience

The Bermuda long-term reinsurance sector demonstrates substantial resilience to severe financial stress. With a post-stress aggregate ECR coverage ratio of 347%, the sector maintains significant capital buffers well above regulatory requirements even after absorbing the impact of multiple concurrent market shocks. This resilience is further evidenced by the fact that 95 out of 106 participating entities maintained ECR coverage above 100% following the stress, with 78 entities (74%) maintaining coverage above 150%.

The results also show that 11 entities initially saw their ECR coverage fall below 100% under the stress scenario. While this represents a relatively small proportion of the sector (approximately 10% of participants), only 3 of these had insufficient credible management actions to form an appropriate recovery plan. This highlights the importance of robust recovery planning and continued supervisory focus on entities with more vulnerable capital positions or business models.

Stabilised regulatory design

The stress test results show the stabilising properties of Bermuda's regulatory framework, particularly the SBA. With an average loss absorbency of 73%, the SBA framework reflects the robust risk and controls in place, providing significant protection against market volatility without compromising prudential safeguards.

This stabilising is most pronounced for credit spread widening, where asset value reductions are substantially offset by corresponding liability reductions, avoiding procyclical volatility. However, when fundamental credit deterioration occurs, the impact appropriately flows through to capital positions, highlighting the importance for both companies and supervisors to invest in robust credit risk monitoring capabilities, data infrastructure and early warning systems to identify and manage deteriorating credit quality in investment portfolios. This contrasts with regimes where spread widening immediately and uneconomically impacts asset values without some degree of liability relief, potentially creating pro-cyclical effects during market downturns.

Asset allocation and investment risk

The stress test reveals a generally conservative asset allocation across the sector with fixed-income securities dominating portfolios. This conservative approach helped mitigate the impact of equity and real estate stresses but increased exposure to interest rate and credit spread components.

While fixed-income assets experienced the largest absolute impact ($61.2 billion reduction), alternative investments suffered the most severe relative impact (34% reduction). This highlights the importance of diversification and careful management of higher-volatility asset classes, particularly for entities with tighter capital positions.

The analysis of asset allocations for entities serving specific markets, particularly that of the UK and Japan, reveals important variations in investment strategy and risk appetite. UK-facing reinsurers maintain notably more conservative portfolios with higher credit quality and more restrictive investment guidelines, reflecting the specific demands of their cedents.

Recapture risk management

The stress test provides deep insight into the structure and potential vulnerabilities of reinsurance treaties across the sector. Of the 106 entities, 12 were identified as potentially subject to their cedents exercising contractual rights to recapture risks previously transferred under these severely stressed conditions.

However, several mitigating factors reduce concerns about widespread recapture:

- Of the at-risk reserves, 56% are from affiliated or connected cedents, reducing the likelihood of opportunistic recapture
- Most entities with treaties at risk have identified credible management actions to restore capital positions
- Collateral arrangements provide additional security for cedents, reducing recapture risks

Management action effectiveness

The analysis of management actions demonstrates that most entities have credible plans to address severe financial stress. Of the 12 entities with the risk of cedents recapturing treaties, eight had contractual arrangements sufficient to restore their financial strength and prevent recapture while two others had other credible recovery plans.

CMAs and committed credit facilities emerged as the most reliable management actions, providing contractual certainty of capital support when needed. Soft capital commitments and portfolio rebalancing actions, while potentially effective, carry greater execution risk and may be less reliable in a system-wide stress scenario.

Geographic considerations

The stress test highlights the global significance of Bermuda's reinsurance sector with substantial exposures to cedents in the US (71%), Japan (19%) and the UK (6%). Each market presents distinct characteristics and considerations:

- **US cedents:** The largest geographic concentration with nearly $400 billion of reserves held by 55 reinsurers. Regarding reserves, 58% are ceded from affiliated or connected companies, and 89% are held in a ModCo or FWH structure to provide greater security for the cedent
- **Japanese cedents:** Of the 18 reinsurers with Japanese cedents, three reinsurers exhibited sufficient financial stress that, if no management actions were taken, some treaties may be subject to the cedent exercising their recapture rights. All three reinsurers had effective contractual mitigants in place to sufficiently restore their financial strength and negate the cedents' right to exercise a recapture. Of the Japanese reserves, 66% are ceded from affiliated or connected parties, and 36% contain triggers for recapture ahead of insolvency, providing additional important mitigating factors
- **UK cedents:** UK-facing reinsurers demonstrated particular resilience with none falling below recapture triggers in the stress scenario. The more conservative asset allocations and investment guidelines typical of UK reinsurance arrangements contribute to this stability

Regulatory Implications

The stress test results support the effectiveness of Bermuda's risk-based regulatory framework while highlighting the following areas for continued supervisory attention:

- **Enhanced monitoring** of entities with ECR coverage ratios that fell below or approached 100% under stress
- **Verification of management action feasibility**, particularly for actions without contractual certainty
- **Assessment of recapture risk concentrations**, especially for entities with significant exposure to unaffiliated cedents
- **Review of recovery plans** in conjunction with stress test results to ensure comprehensive contingency planning
- **Evaluation of volatility dampening elements** of the regulatory framework to ensure an appropriate balance between stability and conservatism

Forward-looking considerations

While the stress test demonstrates the sector's current resilience, several forward-looking considerations merit attention:

- The relatively high concentration of BBB-rated assets in some portfolios could create vulnerabilities in scenarios involving significant credit deterioration
- The effectiveness of management actions may be reduced in scenarios affecting multiple entities simultaneously, potentially limiting access to capital markets or creating competition for parental support

Final assessment

The 2025 GFC Stress Test confirms that Bermuda's long-term reinsurance sector is well-positioned to withstand severe financial stress. The combination of strong initial capitalisation, effective risk management practices and credible management actions provides confidence in the sector's ability to fulfil its obligations to cedents and policyholders even under extreme conditions. This demonstrates that the current level of exposures and capitalisation does not present a threat to the financial stability of the Bermuda long-term market or the global life insurance market.

While the stress test identifies certain vulnerabilities and areas for improvement, these are manageable within the context of the sector's overall strength. The BMA will continue to work with industry participants to address these areas while maintaining a regulatory framework that balances financial stability with market development.

The results reinforce Bermuda's position as a resilient and responsible jurisdiction for long-term reinsurance business that is capable of absorbing significant financial shocks while continuing to provide critical risk transfer capacity to global insurance markets.

Appendix

A. Glossary of Terms

- **Account value:** Account values of the policy groups as reported under local GAAPs
- **ALM:** Asset Liability Management
- **AAT:** Asset Adequacy Testing
- **BIG:** Below Investment Grade
- **BSCR:** Bermuda Solvency Capital Requirement
- **CISSA:** Commercial Insurer's Solvency Self-Assessment required on an individual insurer basis
- **CMA:** Capital Maintenance Agreement
- **CML:** Commercial Mortgage Loans
- **EBS:** Economic Balance Sheet
- **ECR:** Enhanced Capital Requirement
- **FWH:** Funds Withheld
- **GFC:** Global Financial Crisis
- **GSSA:** Group Solvency Self-Assessment on a group basis, where the BMA is the Group Supervisor
- **IAIS:** International Association of Insurance Supervisors
- **ICS:** Insurance Capital Standard
- **LTV:** Loan-to-Value
- **LT:** Long-term
- **ModCo:** modified Coinsurance
- **RML:** Residential Mortgage Loans
- **SA:** Standard Approach
- **SBA:** Scenario-Based Approach