The BMA'S upcoming regulatory review

The rapid expansion of Bermuda's life reinsurance sector could result in regulatory changes that will impact everything from the management of assets and liabilities to investment allocations for insurers, say Barton R. Holl and Angel Zhu of SLC Management.

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Insurers domiciled in Bermuda are currently subject to the Bermuda Solvency Capital Requirement (BSCR), akin to risk-based capital or Solvency II elsewhere in the world. The range of firms represented in the region is considerable: in 2022, Bermuda-based insurers produced over $130 billion in gross written premium, generated in more than 150 unique countries (according to the Bermuda Monetary Authority [BMA]), with the territory's favourable regulatory and business environment making it a welcoming home to major insurers for more than 40 years.

Recently, there has been an explosion of life reinsurance growth fuelled by investors backed by private equity (PE), driving US regulators to pressure the BMA to examine insurers owned by PE firms.

This has led to the BMA proposing multiple changes that will bring the BSCR more in line with other global regulatory regimes. These changes are largely targeted at limiting the assets that can be utilised to back ongoing liabilities, as insurers have expanded the breadth of their investment portfolio since the global financial crisis. Before we dive directly into these possible regulatory impacts on current portfolio composition, let's first examine the current capital system and the proposed changes.

How does the BSCR work?

To understand possible portfolio impacts, it's important to understand the core concepts embedded in the Bermuda Economic Balance Sheet (EBS) framework (Figure 1). The EBS capital framework is a market value-based model for assessing both assets and liabilities. The model itself is a combination of subscribed factor-based and first principle-based approaches, in which insurers are allowed to use their best-estimate assumptions.

Given the value of higher discounting rates to lower ongoing liabilities, insurers have been incentivised to use higher yielding assets, traditionally achieved by going lower in credit quality or decreasing liquidity.

Under the current EBS framework, insurers can use either a standard approach or a scenario-based approach (SBA) (Table 1). The standard approach projects forward liability cash flows and discounts them at the BMA-prescribed standard corporate yield curves (very similar to the US system). The scenario-based approach requires a robust asset-and-liability management (ALM) model that uses a base case and eight separate BMA-subscribed economic scenarios to assess different levels of assets and liabilities.

The best estimate liability (BEL) is then set to be the maximum of the market value of initial assets required to defray all future liability cash flows in all nine scenarios. Moving forward, the BMA will pressure more insurers to use the SBA approach, which is seen as more rigorous and comprehensive.

Under the SBA approach, insurers are allowed to discount liabilities by the yield earned, net of credit risk. Given the incentive for insurers to lower liabilities with a higher discount rate, therefore improving surplus and available capital, there has been a tight focus on maximising portfolio yield. In the past 10 years, with interest rates at all-time lows, insurers have expanded beyond traditional core fixed income, leading to many of the proposed changes.

Table 1: Comparing the standard approach to SBA in assessing assets/liabilities

	Standard approach	SBA
Liability cash flows	Probability adjusted	
Risk-free rate	BMA-prescribed	
Spread	BMA-prescribed	Based on company asset portfolio
Reinvestment yield	Not modelled explicitly	Based on company reinvestment assumptions
Economic scenario	Single scenario with 35% uncertainty spread margin	Uses worst of eight deterministic scenarios

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The BMA publishes very specific guidelines on what assets would be allowed to back liabilities, something which is being scrutinised in the upcoming regulatory review.

These acceptable assets are illustrated in Figure 2.

In addition to maximising discount rates, investment allocation is among the key drivers in insurance/reinsurance pricing, especially for PE-backed reinsurers who have focused on both organic and inorganic growth through acquisition of existing blocks of business. Given the depressed yield environment, Bermuda-based insurers have focused on alternative assets, private credit and lower-credit-quality bonds to maintain attractive product offerings.

The current BSCR grants look-through for fund investment vehicles, making alternative investments more accessible at lower capital commitment for these insurers. The combination of PE-backed insurers and a more favourable capital model has led to an outsized allocation to these assets when compared to a more traditional US or EU-domiciled insurer, within the confines of the BMA-approved limitations.

What is changing with the BSCR?

The BMA has proposed multiple modifications to the capital system, the first major change in many years. The primary focuses are on liability valuation and data management. When it comes to the asset side of the balance sheet, the aim is to reduce the use of lower-quality assets. The BMA will also begin publishing specific input requirements for asset classes in internal modelling (eg, defaults/yields/returns).

The following are the changes that will impact how insurers rethink their investment-focused strategies:

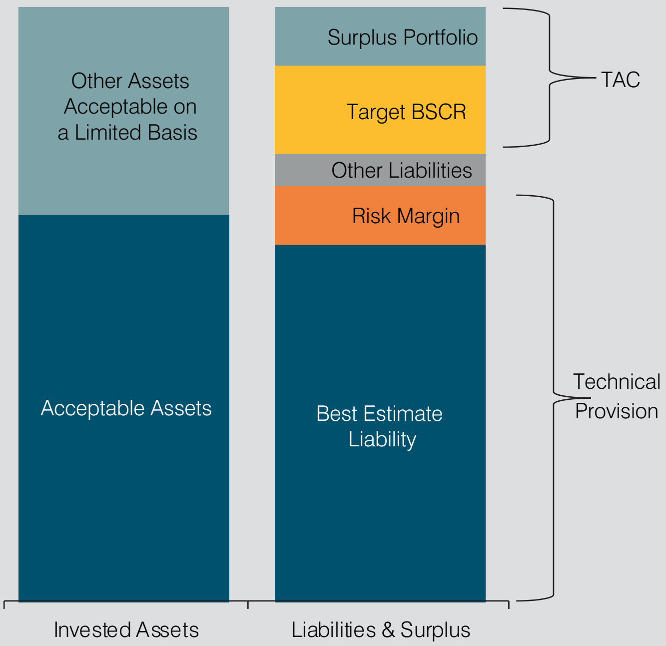
1) Changes to the SBA for the calculation of BEL

a. This is the primary focus of the proposal. The SBA implementation requires a robust cash flow modelling process and rigorous risk management framework, indicating that companies may need to invest significant resources in actuarial models, risk management systems and people.

b. Liability cash flows should be matched with suitable asset cash flows—these assets should produce predictable and stable cash flows as there will be a penalty for ALM cash flow mismatch. Where a mismatch exists, the SBA assigns explicit costs.

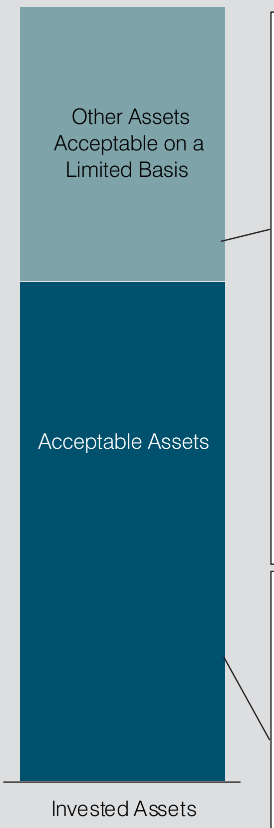
c. SBA requires any model to use prudent assumptions, especially for alternative assets in which market returns may not be easily observable.

Figure 1: The Bermuda Economic Balance Sheet framework



Source: Bermuda Monetary Authority

Figure 2: Bermuda Economic Balance Sheet framework—assets



(258E) Asset classes that may be acceptable on a limited basis:

- The company would need to obtain prior approval from the BMA after providing supporting information (including descriptions of the underlying business, investment and ALM strategy, a quantitative analysis of the risks for each asset class and details of the company's investment functions) to use such assets.
- Such assets would be limited to no more than 10% of the value of the portfolio used in the calculation at the time of the calculation.
- A minimum number of such instruments (such that the average size as a percentage of the total portfolio is no more than 0.5%) so that any non-interest and non-default risks are appropriately diversified.
- Examples of asset classes that may be acceptable on a limited basis:
  - Assets mentioned below that are below investment grade.
  - Commercial real estate.
  - Credit funds (containing fixed income instruments).
  - Residential mortgages.

(258C) Assets that are generally acceptable should be investment-grade assets and include the following:

- Government, municipal and corporate bonds.
- Mortgage-backed securities and asset-backed securities.
- Commercial mortgage loans.
- Collateralised loan obligations.
- Preferred stock.
- Certificates of deposit.
- Other debt instruments.

Paragraphs 258E and 258C are further detailed in the BMA's Reporting Guidance.

2) Focus on alternative assets and lower-credit-quality securities

a. SBA requires insurers to collect the illiquidity premium embedded in the asset yields by holding these assets to maturity. All 258E assets defined in the previous section (below-investment-grade securities, real estate and others) will be categorised as "unsellable assets" to ensure no sales of such assets are required within ALM projections.

b. Default and downgrade assumptions will need to be rigorously calculated and adjusted to account for uncertainty (by one standard deviation). This will lead to a higher proportion of portfolio spread to be allocated to credit risk and therefore not usable when discounting liabilities. This will have an elevated impact on lower-credit-quality securities.

3) Liquidity risk management

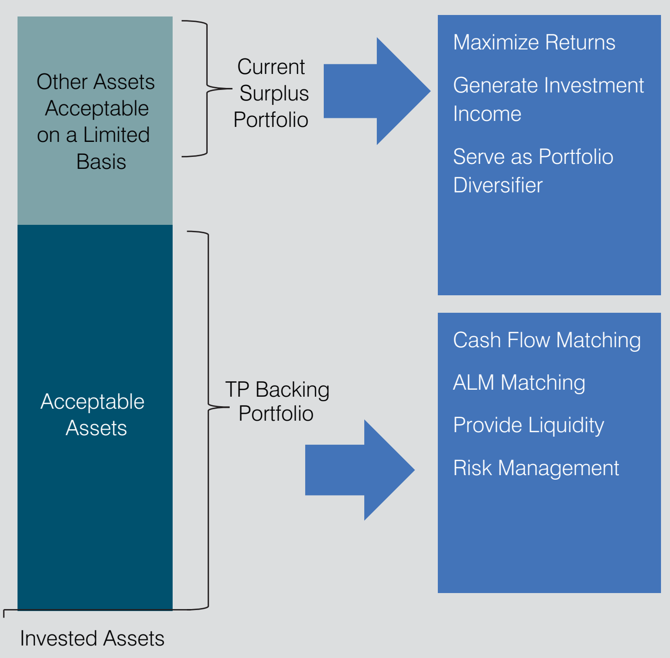
a. The proposal will require insurers to implement a liquidity risk management programme, ingrained into their larger enterprise risk management.

b. Varying degrees of stressed scenarios can help ensure insurers have adequate measures in place without selling marketable securities, particularly below-investment-grade or private assets.

c. Transaction costs need to be explicitly considered in the SBA process.

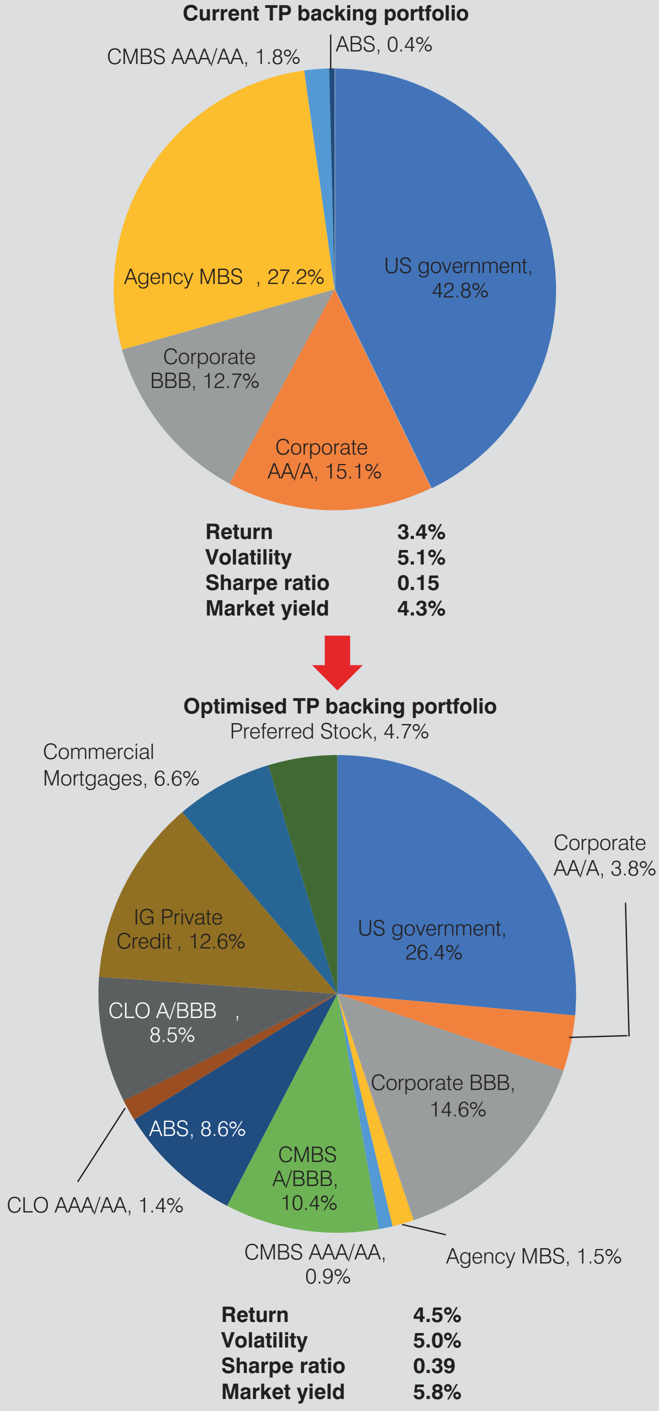
d. New requirements to specifically set a liquidity buffer, which

Figure 3: Illustration of the clear restrictions on surplus vs. liability-backing assets



For illustrative purposes only †

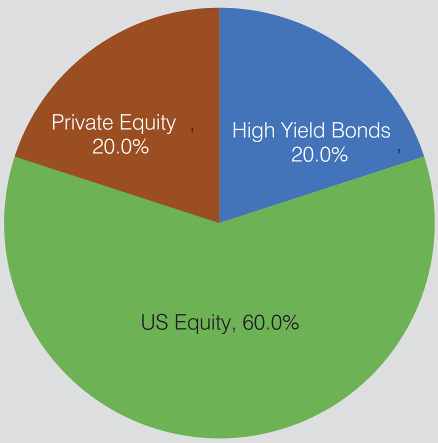
Figure 4: Illustrated results of optimising a TP backing portfolio



Expected returns are calculated based on Treasury default assumptions of spreads over Treasuries, based on the mid-term economic cycle of the three-year trailing period ending March 31, 2023. Data based on publicly available indices including Bloomberg US Agg, US CMBS Indices, JPM CLO indices, Stone Castle IG Private Credit Pricing Matrix and Trepp US Mortgage Loan Index.
For illustrative purposes only †

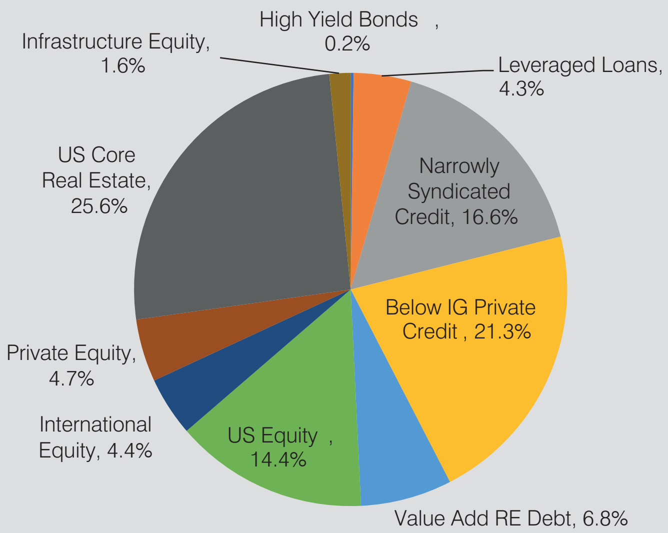
Figure 5: Illustrated results of optimising a surplus portfolio

Current surplus portfolio



Returns	**7.8%**
Volatility	**11.9%**
Sharpe ratio	**0.44**
Market yields	**3.8%**

Optimised surplus portfolio



Returns	**7.4%**
Volatility	**6.9%**
Sharpe ratio	**0.70**
Market yields	**7.3%**

Expected returns are calculated based on Treasury default assumptions of spreads over Treasuries, based on the mid-term economic cycle of the three-year trailing period ending March 31, 2023. Data based on publicly available indices including Bloomberg US Agg, US CMBS Indices, JPM CLO indices, Stone Castle IG Private Credit Pricing Matrix and Trepp US Mortgage Loan Index.
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"The BMA will pressure more insurers to use the SBA approach, which is seen as more rigorous and comprehensive."
Barton R. Holl, SLC Management

can be defined as a pool of highly liquid assets, to address any deficiencies in cash flow that may arise to meet obligations over a specified scenario horizon.

What are the potential implications of such a change to the BSCR?

At a high level, insurers should be aware of the key concepts:

- Emphasis on the importance of managing assets and liabilities appropriately to ensure that there are no material mismatches (cash flow or otherwise).
- Understanding of the portfolios' allocations to lower-credit-quality assets. Certain assets may no longer be able to back liabilities—combined with higher credit risk, decreasing default adjusted yield may materially impair current discount rates.
- Liquidity management may require insurers to increase liquid securities or look for outside funding sources such as the Federal Home Loan Banks.

What is the timeline for the proposed changes?

The BMA is seeking comments and aims to draft legislation along with a further consultation in Q3 2023. The phased implementation of the proposals over three years allows insurance companies time to adjust to the changes.

How does this change an insurer's strategic asset allocation?

With the introduction of PE-backed insurers into the space, more savvy investment allocations have defined the industry for the past 10 years. Some companies will need to reexamine their strategic asset allocation under the new regulations to ensure no large-scale surprises when the three-year grace period ends.

To help aid this process, this paper examines a generic strategic asset allocation for a fictional Bermuda-based insurer to provide an idea of the requirements moving forward under the new regulatory regime.

Often insurers tackle the asset allocation process in two sections: assets that support technical provisions (TPs) and assets in the surplus portfolio. As of now, asset restrictions have little impact on the surplus portfolio, with greater focus instead on the liability-backed assets.

These liability-backing assets have become an afterthought to many insurance companies—with ultra-low rates in the investment grade universe, many insurers have focused on minimising this allocation in favour of surplus assets, which still have attractive risk-adjusted returns/yields.

With the upcoming regulatory review, the return alpha of the investment-grade core fixed portfolio becomes even more important, as the assets that can back liabilities become more restricted (Figure 3).

For the assets backing TPs, we define the investable universe as the acceptable assets (paragraph 258C) described in the previous section, in conjunction with a 10 percent allocation of other acceptable assets on the limited basis (paragraph 258E), as per BMA regulations. Since the BMA capital framework has specific requirements for asset–liability duration matching as well as for cash flow matching, the primary goal of strategic asset allocation here is to minimise the duration and cash flow mismatch while optimising returns.

Liability-backed assets include public fixed income, structured securities and private credit, as all of these remain staples of insurer portfolios. Based on historical spreads from public indices, these structured securities have generally exhibited higher yields without additional capital charges to the portfolios, given the higher credit quality, and can offer significant levels of yield above traditional public corporate bonds (Bloomberg, 2023).

However, these securities may come with greater complexity and illiquidity, which is important to note given the new liquidity requirements. In a volatile market, the bid–ask spreads on these structured securities can be elevated. Investment-grade (IG) private credit also offers significant yield premiums when compared to public bonds, with similar or lower levels of required capital. Investors should remain aware that structured securities and IG private credit have different types of risk, although these risks are generally compensated for, highlighted in Figure 4.

The results of the optimised portfolio highlight its ability to generate alpha in a traditional core fixed income portfolio versus the market benchmark (US Aggregate). By reallocating to the sectors mentioned previously, the portfolio could increase market yield by over 150 basis points (+1.5 percent) with similar levels of annualised volatility (risk), and no additional capital required. By analysing these types of optimisation exercises now, insurers can shift their current portfolio before the new regulations are in place through maturities, prepayments and income, which avoids potential tax implications of transacting through purchases and sales.

For the surplus (return-seeking) portfolios, we typically define the portfolio goals before specifying the investable universe. These goals vary by insurer and generally focus on maximising total return or generating elevated levels of annual income. In this case study, the asset allocation has been expanded beyond the traditional risk assets into a broader set of alternative investments which, in most cases, offer higher returns while improving overall portfolio diversification.

Figure 6: Example illustration of a cash flow model

For illustrative purposes only †

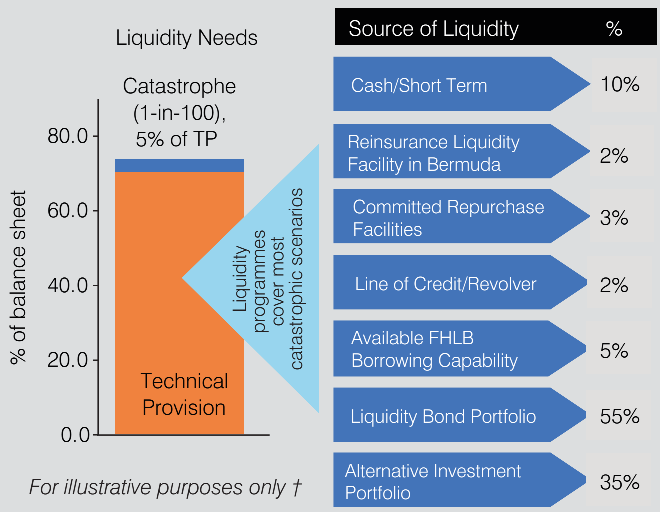
In the target portfolio in Figure 5, the goal of the optimisation was to maximise risk-adjusted returns (gauged by the Sharpe ratio), while maintaining a portfolio yield north of 5 percent. Each insurer has different investment goals in a surplus portfolio, and thus asset allocations may vary.

Given the potential reduction in yield on liability-backed asset portfolios due to regulations, there are concerns that overall net investment income and return on equity may fall, as insurers typically depend on stable levels of investment income for profitability. Within this optimised surplus portfolio, our model maintains relatively similar levels of return, but increases investment yield by roughly 350 basis points, while reducing annualised volatility. With higher levels of investment income, combined with lower portfolio volatility, insurers can mitigate balance sheet and income statement volatility while keeping overall portfolio return and surplus growth relatively consistent.

One last consideration for the investment portfolio is the upcoming changes to liquidity. Many insurers have favoured increasing illiquid securities for the liquidity yield premium they provide, given how capital-efficient private assets can be. Another important consideration within asset optimisation moving forward will be liquidity and cash flow management, particularly for insurers with catastrophe exposure.

> *"The return alpha of the investment-grade core fixed portfolio becomes even more important, as the assets that can back liabilities become more restricted."*
> Angel Zhu, SLC Management

Figure 7: Example illustration of a liquidity programme accounting for "black swan" catastrophes



For illustrative purposes only †

How can an insurer implement a holistic asset and liability liquidity management programme?

The new regulations require that insurers create a framework for managing liquidity risk in the BMA proposal. Alternative investments generally offer higher yields than traditional bond investments but come with less liquidity, regardless of the vehicle. Separately managed accounts (SMAs) tend to have very limited liquidity while fund vehicles can come with relatively greater liquidity but usually have certain lock-up periods. Before deciding how much money should be allocated to illiquid assets, insurers should use a top-down strategy to identify prospective liquidity needs and sources.

One way to assess liquidity needs is by performing enterprise-based cash flow modelling, the goal of which is to ensure that the portfolio's maturity structure is aligned with the liabilities in a way that provides a consistent amount of cash flow each year to cover higher than expected payouts (Figure 6).

We acknowledge that standard stressed models fall short in accounting for one-time "black swan" catastrophes, for which insurers need to set up liquidity buffers. Understanding these catastrophic events, and how the portfolio can support the business during these times, is paramount to a holistic liquidity programme. To help visualise such a scenario, we provide the following example.

Assume that a 1-in-100-year catastrophic event will cost an insurer the equivalent of 5 percent of its technical provision, or roughly 3.5 percent of its balance sheet (Figure 7, left). We identify the sources of liquidity on the right of the chart, from the most liquid to the least liquid according to transaction (borrowing) costs. Cash and short-term investments are the most liquid assets, followed by Federal Home Loan Bank advances, which can be replaced by other similar lines of credit.

Final thoughts

With any level of regulatory change comes some level of anxiety for insurance companies. While we believe these regulatory revisions are appropriate and well-reasoned, insurers should not overlook the potential impact on their enterprise health. At first glance, these changes may appear to restrict an insurer's ability to generate net investment income, but as highlighted in our optimised portfolios, stable levels of above-benchmark income can be achieved with a fully compliant portfolio.

Insurers who become early adopters during the three-year grace period while reassessing their strategies should see little change in their ability to retain and grow new business. ■

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Disclosures

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