Collateral Structures in the Bermuda Long-term Insurance Market

6 September, 2024

Introduction

Reinsurance acts as a risk mitigation tool in the insurance industry that spreads risk to multiple counterparties, diversifying risks borne by insurers and bringing in additional capital to support those risks. Life and annuity reinsurance (long-term reinsurance) of the asset-intensive type can transform risks for the cedent by moving most key risks such as insurance, market and credit risks to the reinsurer and substituting them with reinsurer counterparty credit risk. Thus, the concern for the cedent shifts from financial and insurance risks to the ability of the reinsurer to fulfil its promises over the total runoff of the liabilities or such other period as contractually defined.

To mitigate the risk associated with a reinsurer not fulfilling its obligations, including the potential need to recapture in more extreme circumstances, reinsurance transactions for asset-intensive business are typically conducted on a collateralised basis. The Bermuda Monetary Authority (Authority or BMA) has experienced collateral structures as an effective and significant safeguard in both normal and adverse conditions. However, they are not foolproof, highlighting the need for supervisors to remain vigilant and continue strengthening regulator-to-regulator collaboration.

In this paper, we discuss the form and substance of how asset-intensive long-term reinsurance[1] is executed in Bermuda and how the collateral structures used in the market impact the net risk exposure, cedents have to Bermuda reinsurers in the context of the size of the Bermuda market as measured by assets.

Bermuda Long-term Market Collateral Structures

As of 2023YE, Bermuda's long-term insurance market assets totalled $1.2 trillion. As shown in Table 1 below, about 20% of the total assets refer to non-reinsurance businesses written by outward branches. Most of this business is Asia-focused.

Table 1: Total Long-term (Re)insurance Business

	2023	2022	2021	2020
FWH and ModCo accounts	58%	59%	58%	56%
Other Collateral accounts	8%	5%	5%	6%
Outward branches of non-reinsurance business	16%	18%	20%	20%
Separate accounts	2%	2%	3%	4%
Non-collateralised	16%	16%	14%	14%
Total	**100%**	**100%**	**100%**	**100%**

Removing the non-reinsurance business from the analysis above gives Table 2 below. This shows that most of the long-term reinsurance business in Bermuda (80%) is conducted on a collateralised basis through structures such as Funds Withheld (FWH), Modified Coinsurance (ModCo)[2] or other type of collateral account, e.g., collateral trusts. FWH and ModCo are the

[1] Asset-intensive reinsurance is a form of reinsurance that transfers the investment and biometric risks associated with a block of insurance liabilities from a ceding primary insurer to another insurer or reinsurer.
[2] Under FWH, the cedant retains the assets with respect to all the policies reinsured. This is the same for ModCo with the addition that the cedant also establishes and retains the reserves on the policies in addition to retaining the assets.

majority structures averaging above 70%, while other collateral structures ranged between 6-9% between the years 2020 to 2023. This is expected as FWH and ModCo are common in the US and the US market accounts for between 60% - 70% of Bermuda's total long-term market assets.

It can also be seen that about 2% of business written by long-term insurers is in segregated accounts or of the separate accounts type. This includes segregated cells where the policyholder bears the asset investment risk.

Table 2: Long-term Reinsurance Business

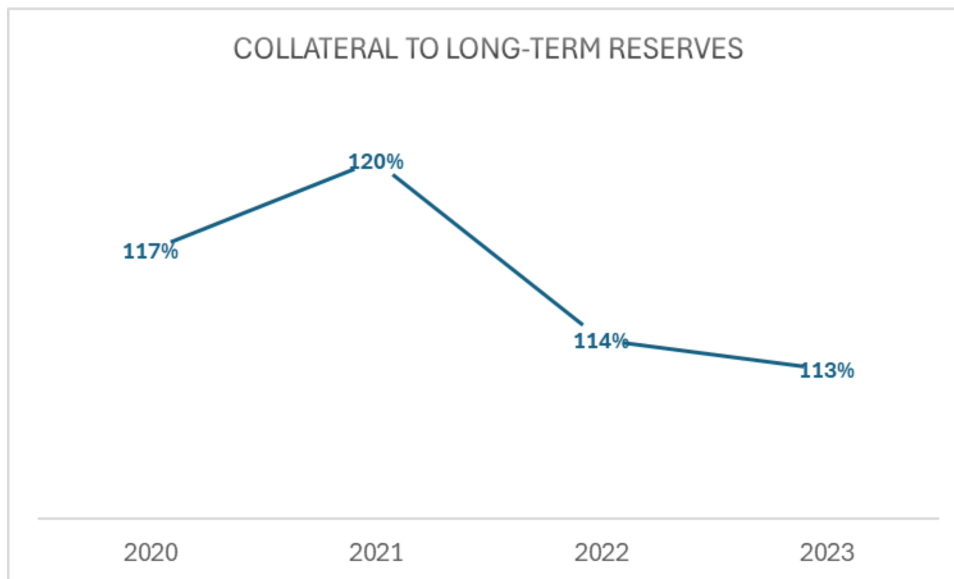
	2023	2022	2021	2020
FWH and ModCo accounts	69%	72%	73%	70%
Other Collateral accounts	10%	6%	6%	7%
Total collateralised reinsurance	**79%**	**78%**	**79%**	**77%**
Separate accounts	**2%**	**3%**	**4%**	**5%**
Non-collateralised business	**20%**	**19%**	**17%**	**18%**
Total	**100%**	**100%**	**100%**	**100%**

Non-collateralised business is about 20% and this includes critical illness and morbidity reinsurance, mortality and longevity reinsurance transfers, as well as business conducted on a pure coinsurance basis. among other business types. While not prevalent, business that is conducted on a pure coinsurance basis, is mainly identified with some affiliated reinsurance, as most third-party reinsurance is typically collateralised. Affiliated reinsurance is typically conducted in the context of group supervision. As a result, there are additional specific mitigants to it, among them being;

1. Both sides to the transaction exist within the purview of the supervisory college.
2. Both sides to the transaction have common/shared access to holding company resources such as revolving credits, etc.
3. Both sides of the transaction are included in:
    - Group/corporate enterprise risk management, own risk solvency assessment and stress testing
    - Group/corporate recovery and contingency planning
    - Group/corporate capital and ratings

Chart 1 below shows that, in aggregate, reinsurers generally deposit more collateral than their statutory reserves (113% in 2023). The BMA also observes that over-collateralisation is also evident when comparing collateral assets with statutory reserves in the ceding jurisdiction.

Chart 1: Collateral to Long-term Reserves[3]



Example – with collateral versus no-collateral structures

The FWH and ModCo structures have significant implications on cedents' reinsurer counterparty credit risk exposure to Bermuda reinsurers. ModCo and FWH reinsurance structures have been used for long-term reinsurance business for more than two decades both on business written within the same jurisdiction (e.g., within the US) or between jurisdictions (e.g., between the US and Bermuda). The BMA has seen and reviewed several such structures as part of its supervisory processes. The Authority observes that the work required to put these structures in place is usually fairly significant. While the structures can be complex and regulators need specialised expertise to assess them, the provisions and obligations of each party are typically well documented and not opaque, including stating the governing law and what types of acts or omissions constitute a breach by the reinsurer or cedent (as well as the implications thereof). The market for these provisions is also well established, as generally undertaken by ceding companies and reinsurers under the advice of a handful of specialised law firms and advisors in the US and Bermuda. Given the market depth, such firms and advisors regularly publish on market developments in this area. The BMA's experience is that these structures can significantly reduce reinsurer counterparty credit risk and enforce discipline between parties involved.

To show how this is achieved, we shall look at how the distribution of risk between the cedent and reinsurer changes with the introduction of collateral structures.

In uncollateralised reinsurance, the reinsurer not only assumes the risk on the business reinsured but also takes the premium, i.e., the assets are transferred from the cedent to the reinsurer, who invests these as they deem fit. This form of reinsurance is common in various jurisdictions for property and casualty cessions, as well as for portions of life and annuity

[3] Calculated on unconsolidated basis in accordance with Insurance Accounts Rules 2016. These statutory reserves are actuarially computed and assessed as adequate by the approved actuary. The statutory reserves cannot be less than reserves calculated in the insurer’s audited GAAP balance sheet

markets such as longevity and mortality risk transfer. Under this form of reinsurance, the cedent is fully exposed to reinsurer counterparty default, but this is not usually a concern where the transaction is not of the asset-intensive type, as in most cases, transactions are done with rated carriers, carrying a rating of A- or better and with reinsurers from jurisdictions with supervisory recognition mechanisms such as Solvency II equivalence or NAIC Qualified and/or Reciprocal Jurisdiction status.

This is not the case for most of the long-term business written in Bermuda that are of the asset-intensive type. Most of this business is conducted on a collateralised basis. For business that comes from the US, the majority use ModCo or FWH structures, while other kinds of collateralised structures are often used for the business that is written from other jurisdictions (such as Asia).

With collateral structures such as FWH, ModCo and collateral trusts, the economic consequences of the reinsured business, that is, any financial gain or loss of the underlying assets and liabilities, is what is transferred to the reinsurer, not the asset. The cedent retains the asset in the collateral account. The collateral custody account is typically maintained in the ceding jurisdiction. FWH and ModCo do not legally transfer assets to the reinsurer or physically transfer to Bermuda. This means the reinsurer assumes the asset and liability risks on the reinsured business while the cedent retains control of and legal title to the assets. As a result, the reinsurer counterparty credit risk is significantly reduced.

Value of Contractual Mitigations in Collateral Structures

As stated above, where the long-term reinsurance contract is executed on a pure coinsurance basis with no collateral arrangements such as FWH, ModCo, etc, the reinsurer would assume the economics of the business and receive the assets from the cedent. Without ring-fenced collateral in a segregated trust or custody account that is subject to mutually agreed investment guidelines and limits:

- The cedent has no legal say or ownership over the assets
- The cedent would have no control of the assets as these would have moved to the reinsurer
- The cedent would have limited visibility on the assets held by the reinsurer for the business ceded
- The reinsurer can invest in any type of asset (in accordance with its strategy and risk appetite) without input from the cedent
- The cedent would depend on the reinsurer to pay claims even under business-as-usual conditions
- The cedent would be exposed to reinsurer default on the full value of the assets needed to support policyholder obligations

These risks and concerns for long-term asset-intensive reinsurance are broadly mitigated when collateral structures such as FWH, ModCo or comfort trusts are used, albeit at a higher cost to the parties. This is because these structures come with a variety of contractual mitigations. Contractual mitigations are put in place as part of transaction design and structuring. Below are

some examples of contractual mitigations the BMA has seen in the supervision of the long-term sector:

1. The assets to be put in the collateral account are agreed between the reinsurer and cedent. This is in accordance with the investment guidelines agreed to by both parties. Thus, the parties agree in advance on acceptable types of assets for collateral purposes.

2. In FWH/ModCo, because the assets sit on the ceding company's balance sheet, the assets will typically be required to follow the investment laws of the state in which the cedent is domiciled. The cedent often adds conservatism relative to such laws based on its appetite for investment risk.

3. Various limits are agreed in advance. These include asset allocation, currency, single issuer counterparty and credit quality/rating limits for each type of asset. Changes to investment guidelines require consent from both the cedent and reinsurer, if not a contractual amendment to the transaction documentation.

4. Substitution rights are communicated and agreed upon upfront, making it clear when and how one asset can be substituted with another and the minimum requirements that need to be met before that can be done.

5. Valuation approaches for collateral assets are agreed upon, including any adjustment to account for the credit quality and liquidity of the assets, among other things. The valuation of the collateral assets is typically transparently specified in the governing documents.

6. The assets posted can be more than the statutory reserves held in the ceding jurisdiction, i.e., there is over-collateralisation[4].

7. Recapture provisions in the reinsurance treaty define the payment and timing of payment the cedent will receive if the reinsurer runs into financial distress, with provisions that are typically more onerous if the reinsurer is 'at fault' for the recapture.

8. Covenants are established in the reinsurance treaty that typically provides constraints on reinsurer asset liability management, jurisdiction and currency of exposure, liquidity, and capital management.

9. The governing law is agreed and in most cases, it is that of the ceding jurisdiction.

10. The contractual mitigations are binding to all parties and the reinsurer cannot deviate from the agreed contractual mitigations. Were it to deviate, it would not do so without facing adverse economic consequences.

The BMA has observed that, for the most part, reinsurance conducted through the use of these collateralised structures is transparent and allows the cedent to stay close to the ceded business post-execution. This is achieved in the following ways:

- In most cases, the collateral structures provide full transparency to the cedent and the cedent's regulator with insight into the nature and value of the assets backing the business. As a result, the cedent has the ability to directly monitor the assets' performance during both stress and normal conditions

[4] the overcollateralization may also be held in a separate supplemental trust account

- The cedent has complete visibility on assets held at any particular point in time. It confirms investments are being made in compliance with agreed guidelines and is involved in the decision-making and negotiation regarding which types of assets to permit or exclude. This also allows the cedent to assess compliance with requirements in the ceding jurisdiction

- The cedent typically has audit rights over the collateral account that they can exercise for any reason at their discretion
- The cedent has the ability to independently monitor asset composition on an ongoing basis and to enforce its contractual rights in the event of a breach
- The cedent has the ability to independently value assets, and, all else being equal, collateral top-ups are required if assets are deemed impaired (whether so deemed by the reinsurer, cedent and/or a third-party auditor)
- Similar to other reinsurance structures, reinsurers are contractually required to regularly provide reporting to the cedent, including highlighting material changes in their financial condition – e.g. financial strength rating, solvency ratio etc.
- The assets are not only investments in the ceding jurisdiction but also remain "held" in the ceding jurisdiction, i.e., no assets actually move to Bermuda or a bank in Bermuda. The cedent also has an influence on the contractual guardrails around the jurisdictions in which the funds are permitted to be invested. This allows the cedent to address its other requirements and expectations, e.g., situations where the cedent desires to directly contribute to its jurisdiction by investing in or participating in its local economy and other productive activities. This is important, especially at a time when governments are looking to stimulate investment in infrastructure, green transition, etc. BMA supervisory experience has not identified evidence where asset-intensive reinsurance causes assets to leave the cedent's jurisdictions where the cedent's market has sufficient depth and a broad range of assets

It should be noted that with structures such as FWH and ModCo, the cedent also retains legal title to the assets, i.e., they legally own the assets. This means any party brought in to provide asset management services is managing the assets on behalf of the cedent and is accountable to both the cedent and reinsurer. In its supervisory experience, the BMA has noted this as one of the important safeguards that ensure the cedent is a key participant in asset management decisions. The question then extends beyond what the reinsurer is doing but also to consider whether the cedent and the reinsurer, in their decisions and input, are doing what is right for the policyholders in light of the governance arrangements put in place around the transaction and the collective decision-making by the reinsurer, cedent and asset manager. The BMA covers this as part of the onsite review process and feedback areas are communicated to the reinsurer firm; and where concerns are identified with respect to the cedent, these are communicated by the BMA to the relevant cedent regulator as part of the bi-lateral discussions.

Effectively, the assets are retained in the ceding jurisdiction, the cedent has access to these assets, and policyholder claims and payouts are met from the collateral account. This means policyholder claims can continue to be met regardless of the reinsurer's financial position, provided the collateral account assets continue to be enough to meet the policyholder's obligations. This limits the impact arising from the failure of the reinsurer as the cedent still has access to the assets just as they did before reinsuring. Effectively, for reinsurer default to occur, the collateral held has to be insufficient, e.g., due to credit default and then the reinsurer has to be unable to top up the collateral account. Ongoing monitoring exists for these collateral arrangements to help ensure that a shortfall, in the ordinary course of business, would likely be

relatively small at the time it is identified. That said, there can be residual risks, which are addressed further ahead in this paper.

What exactly is the Bermuda reinsurer providing if assets remain "held" in the ceding jurisdiction?

Through the FWH or ModCo arrangement, the cedent manages to ring-fence the assets to ensure they are specifically set aside to meet claims on the reinsured block of business. The level of the assets is usually at least equal to the level of reserves held in the ceding jurisdiction. As stated above, it is not uncommon for FWH or ModCo accounts to be over-collateralised, i.e., the amount of assets held is higher than reserves in the ceding jurisdiction. Therefore, assuming policyholder obligations over the entire runoff of the liabilities turn out as assumed under the cedent reserve basis and the collateral assets perform within the range of projections, the cedent already has enough assets (plus excess) in the FWH or ModCo account to meet all policyholder obligations. The risk remains that the policyholder obligations turn out to be more than the assets available to defease those liabilities over their runoff, in which case the reinsurer would have to top up the FWH or ModCo account. This could be due to asset default, asset devaluation, realised loss due to forced sale of assets, adverse development of policyholder liabilities, or other reasons. This is the risk that the Bermuda reinsurer is taking and has to honour the cedent. As the Bermuda reinsurer assumes the risk of topping up the collateral account if the assets are not enough, it also benefits if the assets held turn out to be more than required and as a result, there will be an asset-release to the reinsurer from the collateral account as the business runs off.

When taking on this business, the Bermuda reinsurer assumes the economics (risks, profits and/or loss) of the business reinsured, i.e., there is asset-release to the reinsurer from the collateral account if experience is favourable and top-up risk for the reinsurer if experience turns out to be adverse. In reinsuring this business, the cedent has acted much like a policyholder who buys insurance and transfers the economics to the insurer, except here, the cedent retains access to the premium/assets. If the reinsurer was unavailable to honour their part, the cedent would still have access to the premium/assets. This is an important distinction as it effectively means the cedent, while still obligated to fully meet the obligations to the policyholder, only needs the reinsurer to demonstrate it can meet top-up calls. This is because the cedent already holds a significant portion of assets required to meet the policyholder obligations. This significantly mitigates reinsurer default risk.

It should be noted that, under Bermuda statutory guidelines or rating's agency capital requirements, the Bermuda reinsurer holds additional capital assets to support the incremental risk it incurs via the reinsurance; this capital buffer is potentially available to support top-ups in times of adverse experience.

How has reinsurance benefitted the cedent in this case?

Reinsurance comes with several benefits to the cedent, including but not limited to:

- Allowed the cedent to continue writing business and provide insurance solutions to customers, thus contributing to the narrowing of the protection gap and allowing the cedent to utilise its distribution channels at total capacity. If the cedent were to stop writing business because they no longer have capital, i.e., they are fully deployed, it would be very difficult, if not impossible, for them to re-establish the distribution channels once lost. Reinsurance allows them to mitigate this strategic risk, limit capital consumed in re-establishing distribution channels and thus release more capital to continue serving their customers and contributing to the reduction of the protection gap.

- Allowed the cedent to pivot its business as it may assess fit, e.g., release capital on products that are no longer core to its business ambitions and deploy to other products. For example, cedents have had challenges managing some of the blocks they have ceded to reinsurers. In this case, the cedent either retains the business and their business stagnates, making their ability to fulfil policyholder obligations uncertain, or they crystallise their loss and significantly reduce uncertainty by ceding the risk to reinsurers who are best placed to pool and manage that type of business.
- Provides an avenue for other capital providers to participate in the insurance business and provide capacity to the insurance market. The insurance business is complex, and it is challenging for investors to invest in a huge portfolio of liabilities comprising different products. Reinsurance allows new investors to isolate the specific part of the portfolio they are interested in, bring in experts to underwrite it and customise and match the risks in that portfolio with the right amount of capital from the right source.

What has reinsurance achieved then in this case? What is the benefit to policyholders and the insurance ecosystem?

The contract of reinsurance is between the cedent and the reinsurer. There is no contractual privity between the reinsurer and the policyholder. That said, reinsurance can bring benefits to policyholders.

Broadly speaking, reinsurance adds and/or diversifies capital and its sources, bringing resilience to the sector, all of which are beneficial to both policyholders and the insurance ecosystem.

The net benefit to the policyholder can be significant in both normal and stressed conditions. Before reinsurance, the responsibility to make good to the policyholder rests directly on the insurer if a stress event occurs. After reinsurance, the policyholder has the protection of more than one party; this establishes a ladder of intervention – i.e., the policyholder is, in a sense, protected by two firms and the risks to policyholders of insurer failure are reduced as they have two separate balance sheets (including separate management/recovery actions and other mitigants) protecting them from suffering losses. First, the risk rests squarely with the reinsurer, who must make good to the policyholder (via the cedent) - this is the main and first line of defence. Here, the reinsurer uses both its balance sheet and other off-balance sheet mechanisms available to it, e.g., calling on capital commitments from investors to honour its obligations. It is in the best interest of the reinsurer to make good on this claim, as it stands to lose a lot if it fails to do so:

1. It would lose its remaining capital that has been injected into the business and any retained profits;
2. It would also lose the embedded profits that were to be released from the business over time; and
3. It would lose its reputation and the same applies to its sponsors/investors.

If this first line of defence were to fail, the cedent would serve as a second line of defence as they still have direct duties to fulfil the promise made to the policyholder. Cedants will remain directly obligated to meet policyholder obligations and are also keen to protect their reputation. As a result, they normally invest heavily in the due diligence of the reinsurer and ensure the reinsurance is structured in a manner that protects their ability to fully satisfy their obligations to policyholders, and closely monitor their exposure to the reinsurer over the life of the contract. Recapture provisions are also set to kick in well before the reinsurer becomes insolvent.

The BMA's regulatory and supervisory standard for reinsurers is at an equivalent level to that existing for cedents operating in other competent jurisdictions. The BMA supervises reinsurers to meet their obligations under normal and stressed conditions. The supervision is undertaken as if the reinsurers are the only ones at risk because they have made a promise to the cedent that must be fulfilled. The calibration of the Bermuda regulatory framework does not consider potential interventions by the cedent, nor does it allow reinsurers to consider passing the risk back to the cedent as a viable recovery measure.

How does reinsurance market participant experience combined with depth of market create resilience?

Another example of how reinsurance strengthens resilience and is thus a net benefit to policyholders and the insurance ecosystem is to consider what happens under stress to two insurers using different approaches. The first, insurer A, has reinsured some of its business – say 20%, and not reinsured the other 80% – and the second, insurer B, has no reinsurance, i.e., retains 100% of its business. When a stress event strikes, e.g., mass downgrades in investments, insurer B takes the hit on all its business and must raise enough capital to capitalise the entire business, while insurer A only needs to do that for 80% of its business. The relief insurer A gets 20% of its business, which can make a significant difference under stress and this could provide the critical cushion it needs to continue in business as a going concern for its policyholders. Further, insurer A already has a reinsurance relationship, and this can act as a pressure release valve during stress – for example, if the reinsurer has the capacity to take on the additional 10% of business when insurer A is under stress, this can allow it to quickly put in place management actions and salvage value for policyholders. This would be very difficult to execute for reinsurance B as it has no existing reinsurance relationship or expertise to draw on, which means it not only has to shoulder all the risk by itself but also has limited management actions to take, i.e., it lacks the pressure release valve effect reinsurance can provide.

If a stress event strikes and depletes capital, the insurance business may need to be recapitalised to protect policyholders – the new money (capital) either comes from existing investors or new investors. The reinsured block on the reinsurer's balance sheet is distinct and can be more easily isolated, making it easier for new investors to come in and underwrite it without being put off by the complexity of the entire insurance business. As a result, the blocks are more portable and can be moved to another balance sheet with less friction, and this could be quite valuable during periods of stress where insurers may be looking to execute management actions within tight timeframes. This flexibility in executing management actions enables new capital to come in and protect policyholders during times of stress or heightened uncertainty (e.g., Covid-19 and the Russia/Ukraine war). Indeed, evidence shows Bermuda has brought in capital during times of stress or increased uncertainty instead of capital fleeing the market. This will be covered in more detail in future publications of this series. The ability of reinsurance to facilitate these benefits during times of stress is a critical buttress of financial stability.

What risk has reinsurance introduced in this case?

Credit counterparty risk in reinsurance refers to the risk that the reinsurer will be unable to fulfil its financial obligations to the cedent, such as paying its share of claims when due or maintaining collateral at the required level. As discussed earlier, reinsurance can transform the cedent's risk from financial and insurance risks to reinsurer credit counterparty risk.

The retention of assets through collateral structures such as FWH and ModCo means the cedent does not have to rely on the reinsurer to return funds when claims arise. The cedent can directly use the retained assets to pay claims, reducing its counterparty credit risk exposure to the reinsurer.

The capital that was at risk before reinsurance is that of the cedent post-reinsurance; the capital at risk is that of the reinsurer. This capital at risk could be estimated as its top-up risk.

If the reinsurer fails to meet the top-up calls, there is reinsurer default, and this may trigger recapture by the cedent. The BMA supervises regulated reinsurers to ensure the Bermuda reinsurer is available to meet its obligations to the cedent under both normal and adverse conditions. The Bermuda reinsurer is subject to the full commercial insurer regime in Bermuda, which covers Pillars 1, 2 and 3, including holding appropriate capital for credit and market risks on assets held in collateral accounts plus ongoing stress testing. Further details on the Bermuda framework and BMA supervision and how this works to protect policyholders' interests and contribute to financial stability will be covered in future publications.

Other risks arising from reinsurance relate to the implementation of the reinsurance arrangements, and these are discussed in the following section.

Are long-term reinsurance collateral structures foolproof?

Collateral accounts such as FWH, ModCo and collateral trusts are an important safeguard. However, they are not foolproof. Their effectiveness depends on robust design, effective implementation and quality of assets in the collateral account. Each of these are considered in turn below.

1. Robust design and contractual safeguards – reinsurance is an institutional/wholesale market and collateral structures such as FWH and ModCo are a product of third-party negotiations between the cedent and the reinsurer. While there are best practice standards to follow in designing these structures, the degree to which they are robust depends on the maturity of the risk management systems of both parties and how these are brought to bear during the transaction negotiations.

    a. If the insurer and reinsurer have weak risk management systems, there is a good chance the design of the collateral structures is also weak and the contractual mitigations are inadequate. The history of bad players in the insurance industry is well-documented across jurisdictions. It, therefore, cannot be ruled out that bad players also try to participate in the reinsurance market and do so with weak structures. Not all cedents or reinsurers are equivalent in terms of risk management – just as there have been bad players in the past, regulators should be on the watch for bad players today and in the future. If these are not identified and stopped, they can threaten policyholder protection and harm confidence in the use of reinsurance despite its benefits and history of effectiveness in the insurance ecosystem as a whole.

    b. In a bid to address this, the BMA introduced robust transaction approval at the beginning of 2023 to facilitate understanding of transactions occurring in the Bermuda market and enable transaction-specific cross-border regulatory collaboration. This and other supervisory measures have proven effective not only because the BMA has declined to approve some transactions without modifications but also because counterparties with inadequate risk management systems have withdrawn from participating in transactions.

c. The BMA is also very averse to cedents who do not have the prerequisite capabilities to properly identify and mitigate risks because it creates challenges for the reinsurer which the BMA supervises, e.g., weak risk management systems may compromise the integrity of the data shared with the reinsurers for pricing, underwriting and reserving purposes.

d. Other regulators have noted the same concerns and increased the focus on proper and adequate risk management systems for cedents. The recent supervisory statement by the PRA (SS5/24)[5] is one example.

e. The BMA typically does not approve transactions by reinsurers identified as having weak risk management systems or outstanding supervisory or compliance concerns. The BMA expectation is that regulators of cedents with inadequate risk management systems would also not approve transactions. In this vein, the BMA engages in bilateral discussions with cedent regulators during transaction reviews to discuss and share insights. The BMA does not approve the proposed transaction where the cedent regulator raises concerns. This information sharing is also helpful in cases where the cedent regulator may not be in a position to approve, decline or influence the execution of a transaction.

2. Quality of assets – even where the collateral structure is well-designed, and the investment management framework and limits are agreed upon with the cedents, the safeguard relies on the quality of the collateral. If the collateral account contains low-quality or high-risk assets, there is a greater chance of default or significant loss in value, which can undermine the security provided by the collateral. Holding illiquid assets without adequate levels of liquidity and effective asset-liability management can pose problems if there is an urgent need to convert these assets to cash to settle claims, potentially causing delays in claims settlement or forced-sale losses. Assets prone to high market volatility can also lead to significant fluctuations in the collateral account's value, potentially leaving the account underfunded during market downturns. Our supervisory experience has shown that affiliated assets can also be a significant concern, especially where there is significant potential for conflict of interest. This becomes elevated under times of stress, as the insurer may not be able to fully enforce its rights on the assets because the counterparty is affiliated, or the exercise of the insurer's rights would cause further adverse consequences across the group of affiliated companies. The BMA has instituted several regulatory and supervisory measures in this regard, including:

    a. Bermuda insurers are required to comply with the prudent person principle which requires that, *"the insurer, in determining the appropriate investment strategy and policy, may only assume investment risks that it can properly identify, measure, respond to, monitor, control and report while taking into consideration its capital requirements and adequacy, short-term and long-term liquidity requirements, and policyholder obligations. Further, the insurer must ensure that investment decisions have been executed in the best interest of its policyholders*." The BMA is working on further communication with the market to clarify its expectations in this regard. With that noted, the BMA also recently introduced liquidity and stress testing requirements for long-term insurers to ensure firms' investment portfolios are sufficiently liquid to meet policyholder obligations under normal and adverse conditions. The liquidity position of the Bermuda long-term sector is discussed in the Liquidity Risk in the Bermuda Long-term Insurance Market Report published 30 August, 2024[6].

---

[5] https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/supervisory-statement/2024/ss524-july-2024-update.pdf

[6] https://www.bma.bm/pdfview/9648

b. Affiliated assets now require BMA approval and insurers would need to meet a significantly high bar to obtain approval. This is now part of the regulatory framework. The BMA's approval is not limited to affiliated assets that meet the legal "affiliate" definition but also includes those assets that may not be affiliated but where potential for conflict of interest in the investment exists, i.e., exposures to connected parties. Connected parties, in this case, also include parties connected to the reinsurer and/or cedent. This reflects the fact that cedents influence the investments held in the collateral account and while there may be no conflict of interest on the reinsurer side, it may exist on the cedant side. As part of the approval process the BMA engages with ceding regulators and also considers how the same asset is treated in the ceding jurisdiction.

c. Assets held in collateral structures such as FWH and ModCo should comply with investment laws and regulations applicable in the ceding jurisdiction. For example, for US FWH and ModCo, the assets still sit on the cedent's balance sheet and the cedent has legal title to the assets. This reduces the risk of assets being held that are not admissible in the ceding jurisdiction e.g., for reserving purposes were a recapture to occur. As a result, the assets need to be admissible under the ceding jurisdiction's regulatory framework. The BMA receives confirmation from the regulators of the cedents as part of the bi-lateral discussions and some US cedents disclose the same to their US domiciliary State supervisor. BMA supervisory experience has shown that there are no significant differences in asset allocation between ceding jurisdictions (e.g., the US) and Bermuda at the market level. Indeed, for affiliated reinsurers where a portion of the business is ceded to Bermuda and another remains on the cedent balance sheet, once a portfolio of assets is purchased for a deal, vertical slices of the entire portfolio are generally ceded on a pro-rata basis to Bermuda entities and/or third-party vehicles.

3. Effective implementation – effective implementation of collateral arrangements borrows from and builds on robust design and clear and detailed contractual mitigations. These mitigations were outlined in detail above and include an outline of the specific assets to be held as collateral, the criteria for asset quality, procedures for valuation, audit rights, conditions under which assets can be substituted or liquidated etc. The need to effectively implement these contractual mitigations applies equally to both the cedent and reinsurer. BMA supervisory experience has shown that most reinsurers have dedicated compliance teams who regularly monitor and report on compliance with reinsurance contractual obligations including for FWH, ModCo and collateral trust account structures. There are monthly (or more frequent) reporting and compliance certifications to cedents as well as real-time access for cedents to view collateral holdings and confirm compliance. Indeed, the BMA has observed that where reinsurers and cedents fail to effectively implement the controls, problems can arise. Some examples:

a. Cedant example: The cedent over-extending itself by allowing assets that are outside of the expertise it has available internally. As a result, if the need to recapture the assets arose, the cedent may not be fully equipped to understand the risk characteristics of the assets in the context of its balance sheet. Similar concerns arise where the cedent fails to ensure collateral assets meet requirements in the ceding jurisdiction e.g., for reserving purposes. As a result of the assets not qualifying to back reserves, the cedent could end up with insufficient capital to re-assume the business if a recapture occurs. This over-extension risk needs to be embedded within the cedent's risk management framework in terms of keeping an eye on the collateral assets for not only appropriateness for the liabilities but appropriateness for its own solvency, and

also having appropriate limits in terms of exposure to any given reinsurer or reinsurers that may be correlated. This is an area that the BMA finds would benefit significantly from collaboration with cedent regulators.

b. Reinsurer example: In some ModCo account set-ups the contractual mitigation may require that the cedent approve assets proposed by the asset manager. While the cedent has the right to approve, it is still important that the reinsurer reviews and confirms that the proposed asset is in compliance with the agreed investment guideline, especially considering it is the reinsurer that bears the economic risk and not the cedent. Where the reinsurer fails to do so e.g., due to having a weak risk management system, assets may be bought that may not be in the best interest of policyholders. The reverse is also true, i.e., the cedent is not exercising its rights on actions and decisions by the reinsurer.

Conclusion

This report has outlined how appropriately structured reinsurance arrangements and collateral accounts (e.g., under ModCo, FWH and collateral trusts) are an important safeguard in the context of asset-intensive business, which can significantly reduce the risks that arise from the use of reinsurance and enhance policyholder protection. Being tried and tested, these safeguards have generally held well for many years through various business cycles including adverse conditions. While the size of the Bermuda market is in the region of one trillion US dollars as measured by assets, the actual risk exposure cedents have to the Bermuda reinsurers is significantly less than that as a result of the protection these arrangements provide. We referred to this as the top-up risk and dissected what it would take for the reinsurer to fail to meet this top-up in time including highlighting that Bermuda reinsurers hold additional capital on top of the collateral assets. The paper also showed how Bermuda as a reinsurance market adds resilience to the insurance ecosystem by spreading the impact of stress events across multiple insurers, enhancing the range of options and flexibility insurers have during times of stress and enabling quick execution of their management actions, and broadening and expanding the capital base for the sector through diversification of investors. These benefits have also been evidenced during times of crisis in the past. Capital has flown into Bermuda during crisis times rather than exiting it, facilitated and incentivised by Bermuda's well-tested infrastructure for attracting new money.

This report also noted that collateral structures, while a significant safeguard, are not foolproof and highlighted weaknesses in risk management as a key area of attention.

Strong governance and risk management systems on both the reinsurer's and the cedent's sides are vital for ensuring the structures established are robust and will deliver the level of protection they are designed to provide.

While most market participants adhere to best practice standards, it is important that regulators identify those who do not and take swift action, including blocking the execution of reinsurance transactions. The BMA's enhanced regulatory and supervisory processes have enabled it to not only be ahead of such issues but also to share its insights with co-regulators and raise awareness of critical developments. This indicates the differentiated approach to supervision that is required for the asset-intensive type of reinsurance, regulator-to-regulator collaboration, information sharing, complete transparency and swift action. The BMA is not only committed to these but is a leading advocate in various forums, as shown by its participation in a wide range of initiatives e.g., supervisory colleges, bi-lateral discussions, IAIS workstreams, several memorandums of

understanding signed.[7] This paper seeks to raise awareness of these issues in the regulatory community and contribute to the continued strengthening of ongoing engagements and initiatives.

[7] See here: https://www.bma.bm/international-agreements