MILLIMAN REPORT

Milliman Derivatives Survey 2024 - Executive Summary

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This report sets out the key findings of the 2024 update to Milliman's survey of derivative usage for risk management in the global life insurance industry.

Milliman conducts periodic global surveys of life insurance companies to explore trends in risk management practices and derivative usage. Since the last survey, conducted in 2020, insurance company risk management and asset liability management (ALM) strategies have continued to evolve in the face of changing market conditions and regulations. As pandemic fears eased, the world's central banks executed the steepest series of interest rate increases in decades during their multiyear drive to curb inflation. Global policymakers have raised rates by an average of around 500 basis points (bps). Most economies absorbed this aggressive policy tightening and have shown resilience over the past year. Consequently, major central banks have had to keep interest rates higher for longer, and recent rate cuts have come about only after evidence that inflation may be abating while job markets showed signs of weakness. Heightened geopolitical tensions have also impacted market sentiment. Additionally, insurers have adjusted processes to align with regulatory developments including Uncleared Margin Rules (UMR), Solvency II, the International Financial Reporting Standard 17 (IFRS 17) and Long-Duration Targeted Improvements (LDTI). The aim of this survey is to explore the impact of these factors, to identify recent trends in derivative usage, and to offer a perspective on how derivative usage is likely to change in the future.

This year's survey, which was conducted over the first half of 2024, received responses from 57 insurance companies based in North America, Europe and Asia, including many of the largest companies in the industry. In this report, we provide a breakdown of responses by region to illustrate the many meaningful variations based on the local economic and regulatory environments. North America provided 53% of responses, followed by 18% from Europe, 28% from Asia and the balance from the rest of the world.

While certain geographies face specific challenges, overall market conditions are stabilizing, with many insurers in growth mode and no longer focusing on remediation efforts from the aftermath of the pandemic. Our key findings are as follows:

KEY FINDINGS

- The largest market exposure participants have is interest rate risk followed by equity risk. Most respondents also reported having exposure to currency and credit risk while less than 40% cited material inflation and longevity risks.
- Fixed annuities (FA) and equity/fixed indexed annuities (FIA), along with registered index-linked annuities (RILAs) and bulk purchase annuities (BPAs) for pension risk transfer (PRT) transactions, were the products for which the most respondents are seeing an increase in sales.
- The final two phases of the Uncleared Margin Rules were implemented globally in September 2021 and September 2022. This led to a significant rise in market participants opting for central clearing of trades, with a preference for the ISDA Standard Initial Margin Model (SIMM) over the regulatory prescribed schedule methodology (also known as Grid) for calculating initial margin.

- For those respondents subject to Solvency II, there were an equal number between Standard Formula firms, and those firms using either a partial or full internal model for their solvency calculations. For hedging, solvency ratio is considered the most important hedging objective by eight firms, of which three see it as a full explicit hedging objective. Risk margin and best estimate liability (BEL) are the least likely capital items to be included as a hedge objective, with only four firms including each, and only two of those saying these capital items are fully explicit.
- Economic profit and loss (P&L) volatility continues to be the most important objective for hedging programs, particularly in North America, while GAAP/Accounting/IFRS 17 volatility and statutory/regulatory volatility are also key objectives for a significant proportion of firms. Economic/regulatory capital are also the most important for a significant number of firms in Europe and Asia.
- Across products and at the group level, companies continue to use both static and dynamic hedging strategies. At the group level there is a bias towards static techniques in North America and Asia and a bias towards dynamic strategies in Europe.
- With heightened market focus on artificial intelligence (AI), 84% of respondents are not employing these technologies in their risk management framework. Those that have investigated these tools are mainly using them for exploratory research and development (R&D) and proxy modelling.

Profile of survey respondents

We are pleased to have received responses from 57 global insurers, based across North America, Europe and Asia, including many of the largest companies in the industry. Over half of the survey respondents are from North America, with the remainder spread across Europe, Asia and the rest of the world (Figure 1).

Globally, interest rate, equity, credit and currency are the key market risks that insurance company respondents face, though inflation and longevity risks are often also material (Figure 2). Inflation risk is considered most material in Europe. Overall, the story is relatively unchanged since our last survey in 2020, though there has been a significant increase in currency risk hedging outside of North America, likely due to heightened geopolitics in our post-pandemic world.

Insurance companies responding to the survey manage risk for a diverse array of insurance products, including many which incorporate embedded guarantees that must be risk-managed using derivatives. Roughly 90% of the firms we surveyed are primarily direct writers and the rest are primarily reinsurers. As in 2020, life insurance and fixed annuities represent the two most common products across all geographies. The full product offerings of responding firms are given in the Figure 3. Compared with our last survey, life insurance offerings declined and fixed annuities offerings increased. In this report, we provide an extensive analysis of all the product types managed by survey respondents as well as the derivatives they use to do so.

FIGURE 1: REGIONAL BREAKDOWN

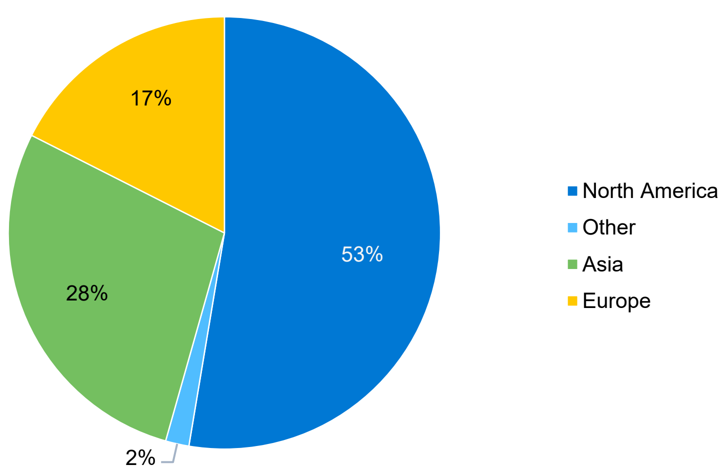


FIGURE 2: BREAKDOWN OF MATERIAL MARKET RISKS

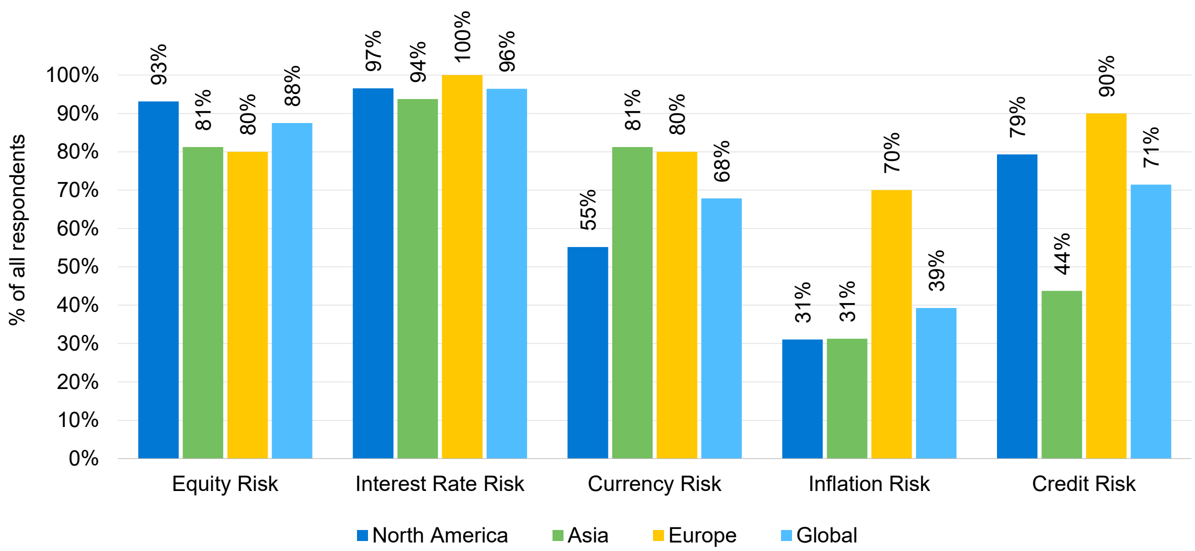
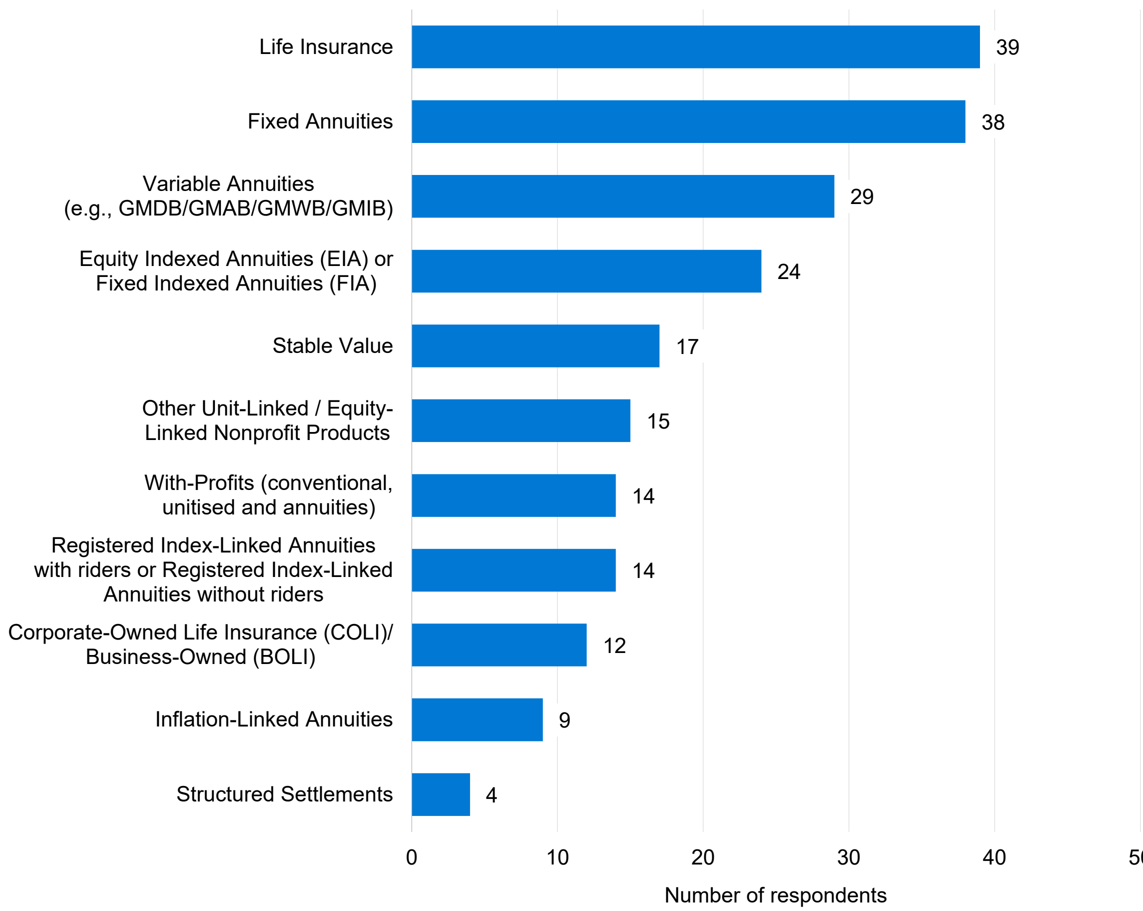


FIGURE 3: BREAKDOWN OF PRODUCTS OFFERED



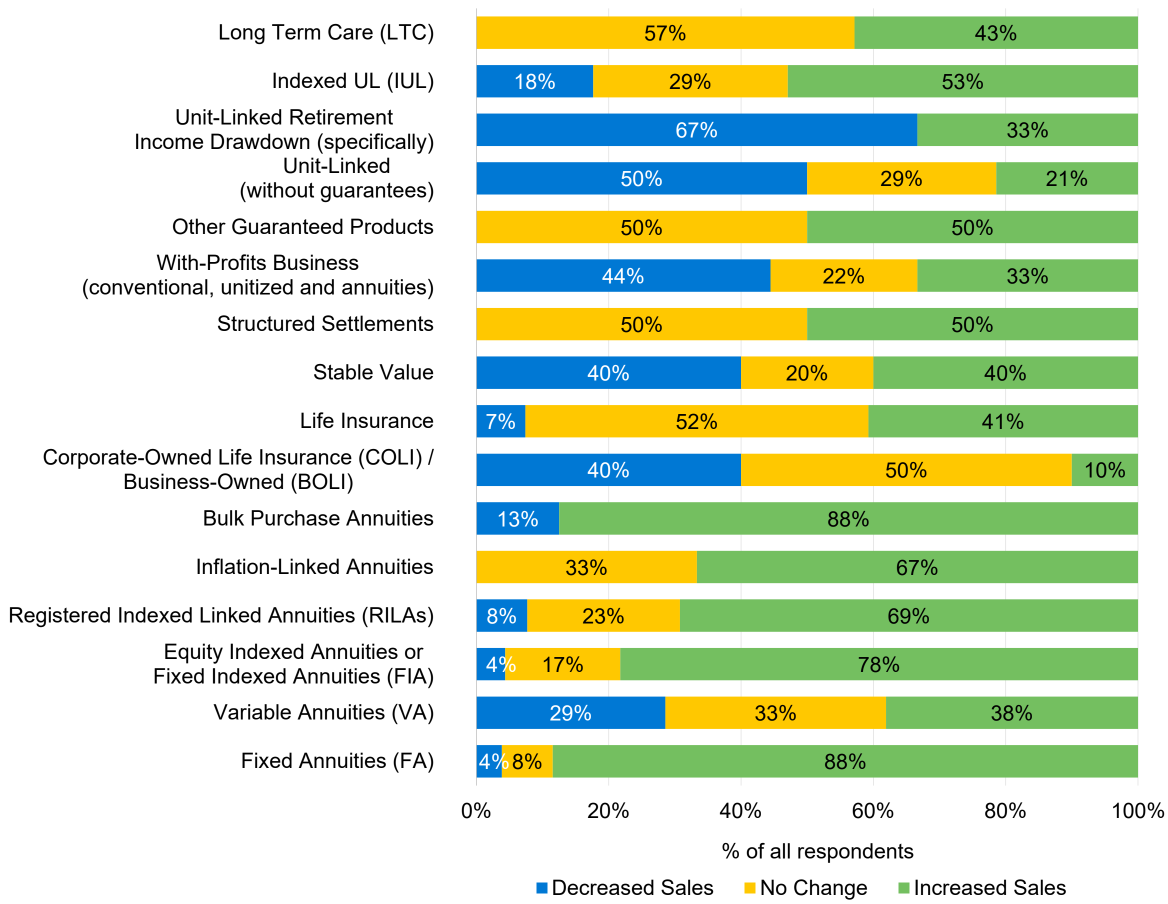
Hot topics

MONETARY TIGHTENING

In response to the pandemic, global policymakers committed their full range of tools to support their respective economies. Consequently, indicators of economic activity and employment strengthened while inflation rates climbed higher. Faced with tight labor markets and elevated levels of inflation, central banks began executing the steepest series of interest rate increases seen in decades. Even though global rates have risen by an average of circa 500bps, most economies were surprisingly resilient and have absorbed this aggressive tightening in monetary policy. Many central banks had to keep interest rates higher for longer. For the first half of 2024, market volatility has remained near multiyear lows, with only a few spikes in volatility resulting from shifting central bank expectations and geopolitical tensions.

In Figure 4, we aggregate the opinions of 43 firms that responded when asked about the impact they see from the current market environment and rising interest rates on product design. While most of our survey participants responded that the recent rise in interest rates has not resulted in any changes to their interest rate hedge strategy, many responded that they see product being impacted. Most respondents see fixed annuities (FA) and equity-indexed or fixed indexed annuities (FIA) with increased sales. Strong economic conditions coupled with growing demand for protected growth has likely driven sales for fixed annuity products. Despite strong equity market growth, traditional variable annuity (VA) sales are declining for 29% of respondents. The introduction of RILAs in recent years and the expansion of FIAs have offered investors options to buy a product that provides upside investment potential with limited or no downside risk, a value proposition that has negatively impacted VA sales.

FIGURE 4: IMPACT OF RISING RATES AND THE MARKET ENVIRONMENT ON PRODUCT DESIGN



UNCLEARED MARGIN RULES

The last two phases of the Uncleared Margin Rules (UMR) went into effect in September 2021 and September 2022 in the US and in most jurisdictions around the world. During this period, there was a substantial increase in the extent to which market participants centrally clear their trades. This is reasonable because the rule aimed to lower the cost of a cleared trade relative to a bilateral trade between two counterparties.

Twenty survey respondents reported being subject to UMR: 15 of these respondents report exchanging collateral under UMR (Figure 5). Those that are subject favor the SIMM methodology over the GRID methodology (Figure 6) and favor a triparty segregation structure over a third-party segregation structure (Figure 7). AcadiaSoft is the most popular software to manage UMR, though internal systems are also widely used (Figure 8).

FIGURE 5: EXCHANGING COLLATERAL UNDER UMR

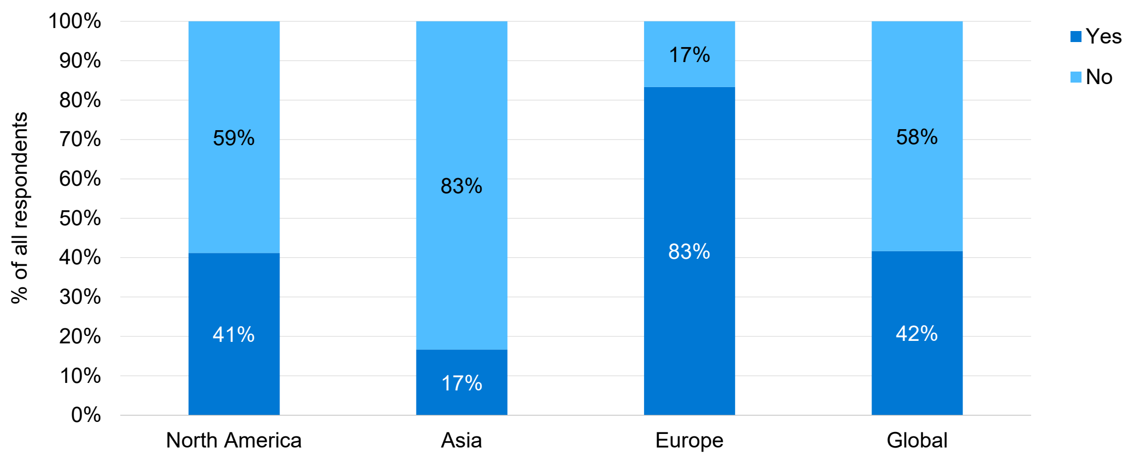


FIGURE 6: UMR METHODOLOGY

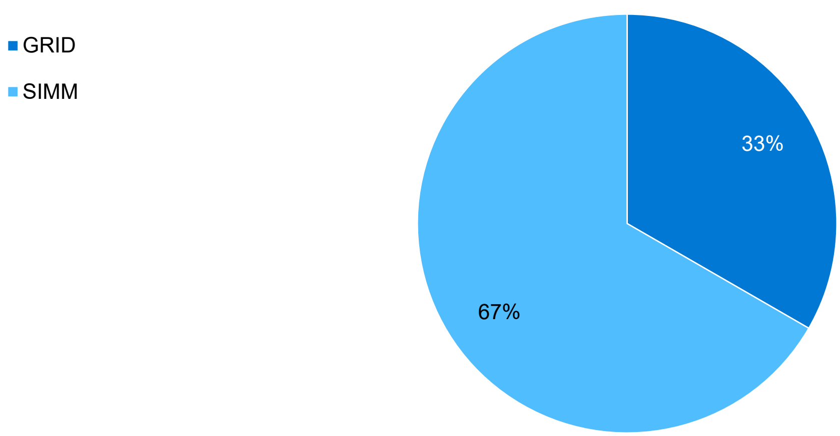


FIGURE 7: PLANNED SEGREGATION STRUCTURE FOR UMR COMPLIANCE

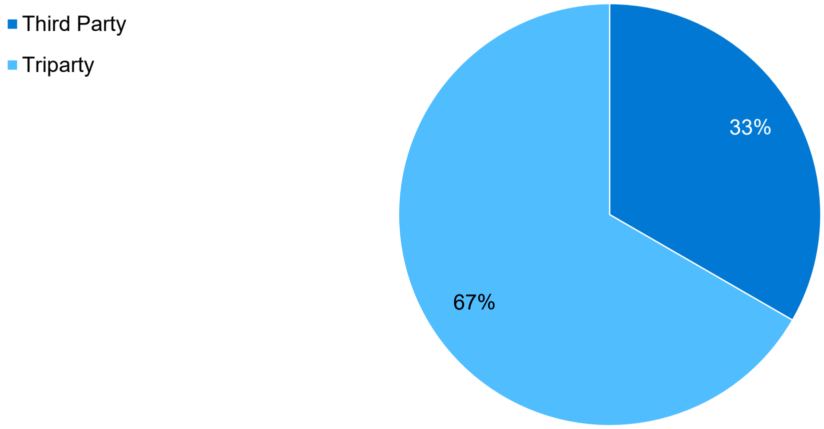
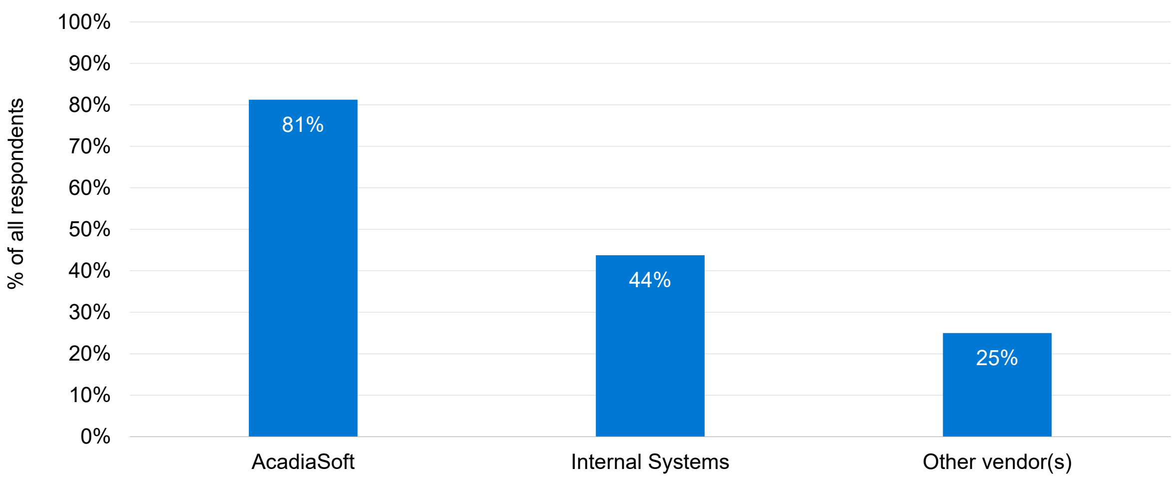


FIGURE 8: SOFTWARE VENDORS USED OR PLANNED TO BE USED TO MANAGE UMR[1]



1. The other vendors mentioned were Cassini, FIS and Calypso.

SOLVENCY II

Using Figure 9, we can tell that—of the 10 respondents that report under Solvency II—half employ the Standard Formula, 20% a partial internal model, and 30% a full internal model. Among these same respondents, 70% consider Solvency II to be either very important or extremely important as a metric for hedging decisions while 30% consider it to be only moderately or slightly important (Figure 10).

FIGURE 9: SOLVENCY II MODEL BASIS

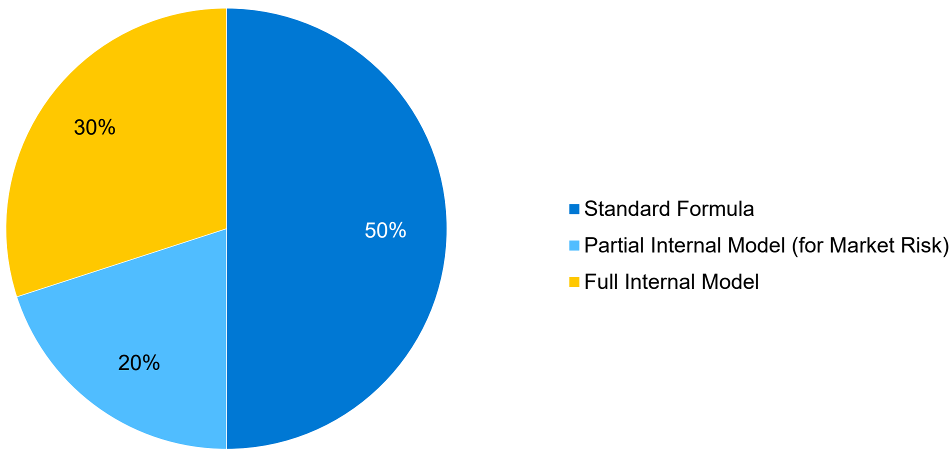
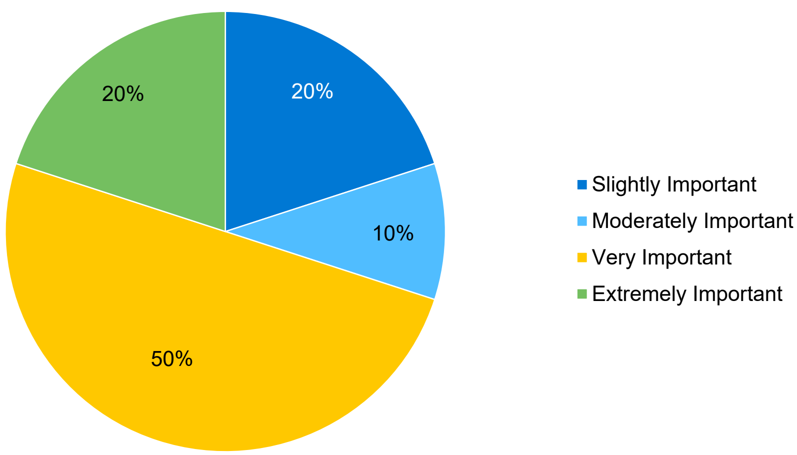


FIGURE 10: SOLVENCY II IMPORTANCE AS A KEY METRIC FOR HEDGING



Hedging strategies by category

OVERALL HEDGING STRATEGY

Respondents have differing views regarding the most important hedging objective. Nonetheless, economic P&L volatility continues to be the most important objective for a plurality (relative majority) of hedging programs, with 30% of respondents naming economic P&L volatility their most important objective. GAAP volatility and regulatory capital are also key objectives for a significant proportion of firms. We have graphed their preferences in Figure 11, Figure 12 and Figure 13, from which it is interesting to see the extent of the various objectives considered among hedging programs:

- Of note is the increased importance of GAAP/IFRS/accounting P&L volatility as a hedging objective among EU firms. In 2020, this was only included as an objective by 63% of EU respondents and was of highest importance to no EU respondents in 2020.
- Globally, only one firm (3% of respondents) said that credit rating was its most important objective.
- GAAP/IFRS is at least included as an explicit objective by 76% of respondent insurers and considered the most important by 21%.
- In the UK, each of the respondents pointed to a different objective that they consider the most important.
- Capital (either regulatory or economic) is a significantly more important measure for the United Kingdom, where it is at least included as an objective for all respondents. Asian firms also prioritize regulatory and economic capital.
- Globally, half of insurers do not include credit ratings in their objectives.

FIGURE 11: MOST IMPORTANT HEDGING OBJECTIVE

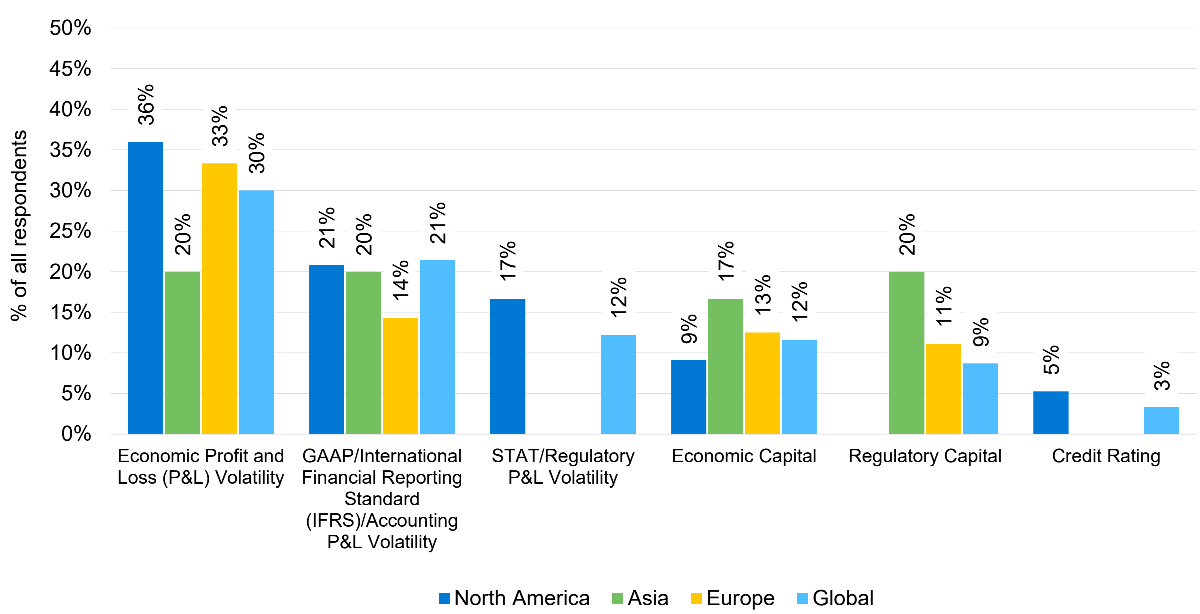


FIGURE 12: MEASURES INCLUDED IN HEDGING OBJECTIVE, BUT NOT NAMED "MOST IMPORTANT"

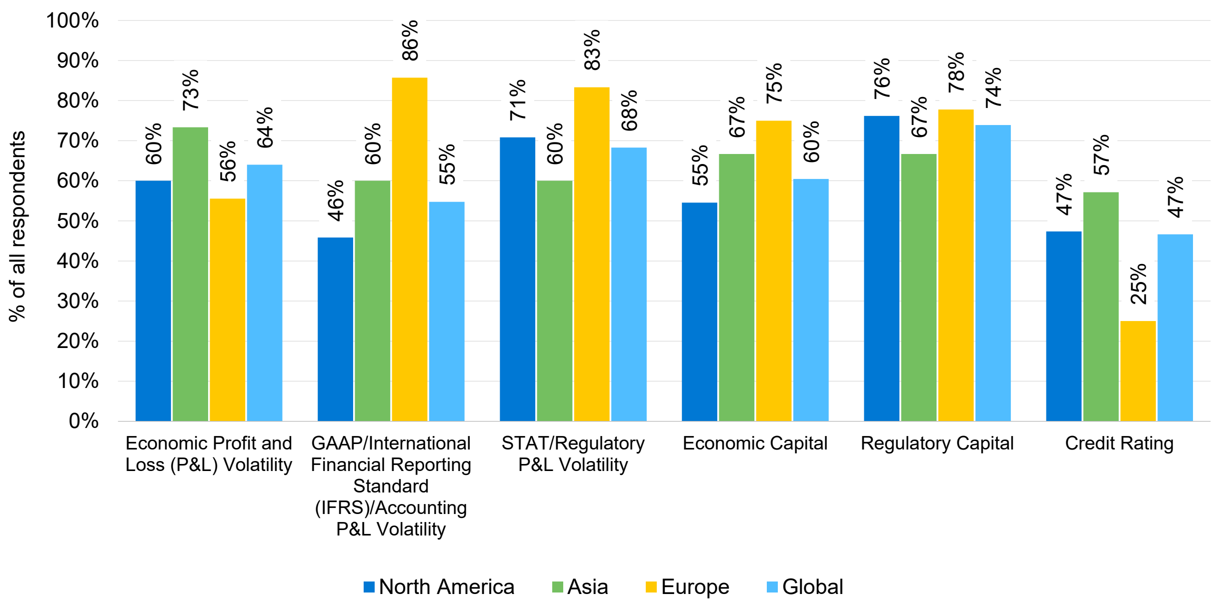
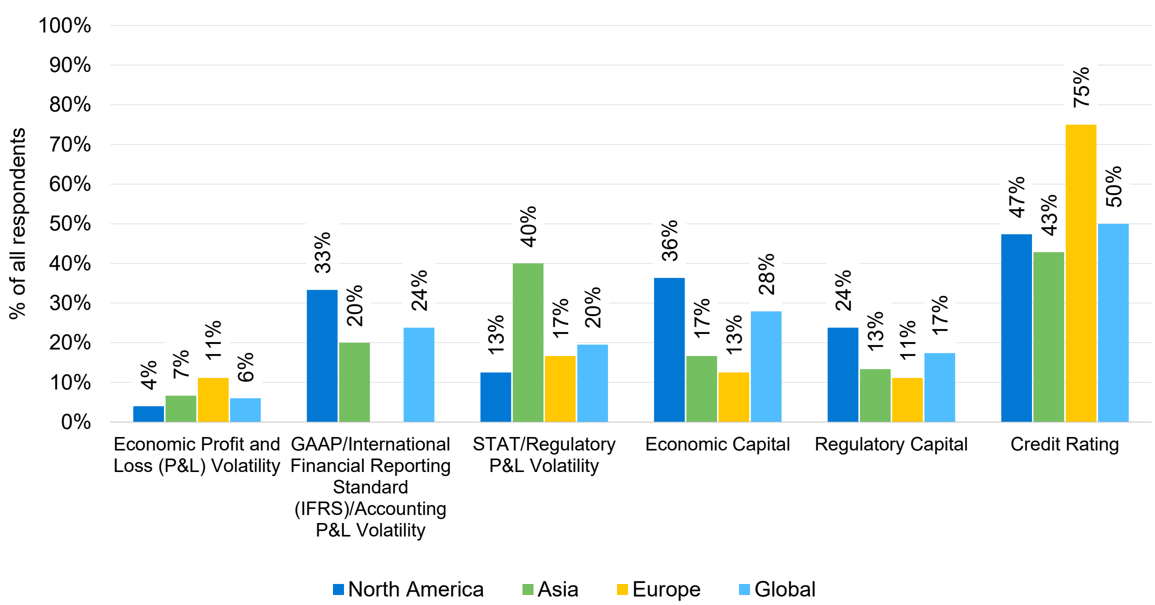


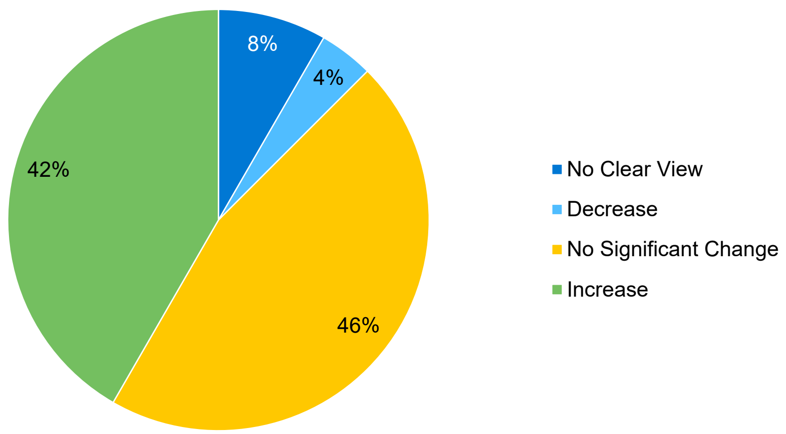
FIGURE 13: MEASURES NOT INCLUDED IN HEDGING OBJECTIVE



DIRECTION OF DERIVATIVES USAGE

Regarding the total derivative usage over the next two years, almost 90% of respondents expect derivative usage to increase or stay the same while only 4% expect usage to decline (Figure 14). In the US, LDTI will take effect for private companies in 2025, which will likely result in some companies adjusting their hedge target and require more derivatives. LDTI took effect for public companies in 2023 and influenced hedge targets. Overall, derivatives continue to play an important role in an insurance company's risk management framework.

FIGURE 14: ANTICIPATED FIRM-WIDE CHANGE IN TOTAL DERIVATIVE USE



We received many comments on the key reasons driving change in derivatives usage. One of the key drivers amongst insurers is market volatility, which is not surprising considering global quantitative tightening, recent geopolitical risks and the US presidential election. LDTI, capital efficiencies, new business and sales and regulatory purposes were also mentioned as some of the key drivers.

This document includes selected highlights of the Milliman Derivatives Survey findings and key conclusions based on survey data.

Please contact Milliman for more information about the survey findings, and to participate in this survey in future years. All survey participants receive a full copy of the survey report with additional information including detailed survey results and analysis of survey findings.

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