

American OTC derivatives market within the life insurance sector

YE 2023

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We analyzed the American over-the-counter (OTC) derivatives market within the life insurance sector for the year-end of 2023, based on the publication database provided by the National Association of Insurance Commissioners (NAIC Annual Statements - Sch DB). The number of U.S. insurers reported having derivative exposure in 2021 was 328. Life companies accounted for 226 (69%) of the total number of U.S. insurers with derivative exposure. They represented 29.6% of the 763 life companies that filed an Annual Statement in 2021 (latest declared). Among P/C companies, 86 out of 2,621 reported having derivative exposure. Insurers use derivatives primarily for hedging, income generation and replication of other assets. Hedging accounted for 95% of the total notional value outstanding. Hedges can be constructed as portfolio hedges or specific asset hedges against one or more risks, typically interest rate, equity, foreign exchange and credit risks. Hedges are classified as "hedging effective" or "hedging other." A hedge generally is considered effective when "the change in fair value of the derivative hedging instrument is within 80% to 125% of the opposite change in fair value of the hedged item attributable to the hedged risk."

From our analysis, we have drawn the following conclusions. Life insurance companies gain a substantial share in the OTC derivatives market, with a total notional amount of \$3.137 trillion executed, 92% of which are not hedging effective. Swaps and forwards make up 55% of the total market, including Total Return Swaps (TRS), while options represent around 45%. When looking at the data by asset class, interest rates dominate at 50%, followed by equities at 38% and foreign exchange at 9%. The remainder of derivatives transactions utilized credit hedges. For equity derivatives, options strategies were primarily used, with up to 5 years in maturities. 74% of Equity options derivatives strategies utilized were calls, cliquets and warrants, while puts comprised less than 20%, followed by a notably low rate for collars, comprising less than 3% of options strategies; equity strategies have mainly short-term hedging aim. Regarding interest rates, diversification is better deployed across products: swaps and swaptions comprised most of total IR derivative strategies, followed by contributions by calls, puts, caps, floors and collars. IR products exhibit a much longer tail in the tenor distribution compared to equity. FX and Credit executed transactions are a mix between forwards and swaps primary. Overall, the figures for 2023 are fully in line with 2022, indicating a stable market trend.



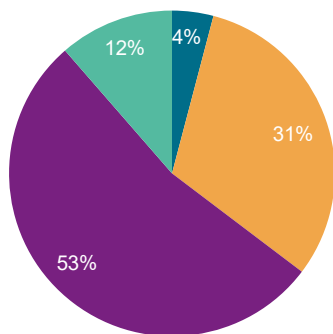
OTC derivatives global exposures and risks

Globally, the American OTC derivatives market in the life insurance sector is primarily concentrated in swaps (~50%), followed by options. IR is the primary risk factor to be exposed, followed by equity, with a marginal contribution from FX. Total notional amount equals \$3.137 trillion for yearend 2023.

OTC Derivatives Positions

2023

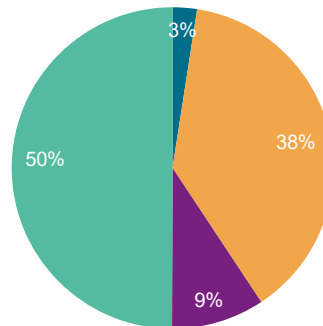
Forwards Purchased Options Swaps Written Options



Derivatives Position by Risks

2023

Credit Equity/Index FX IR

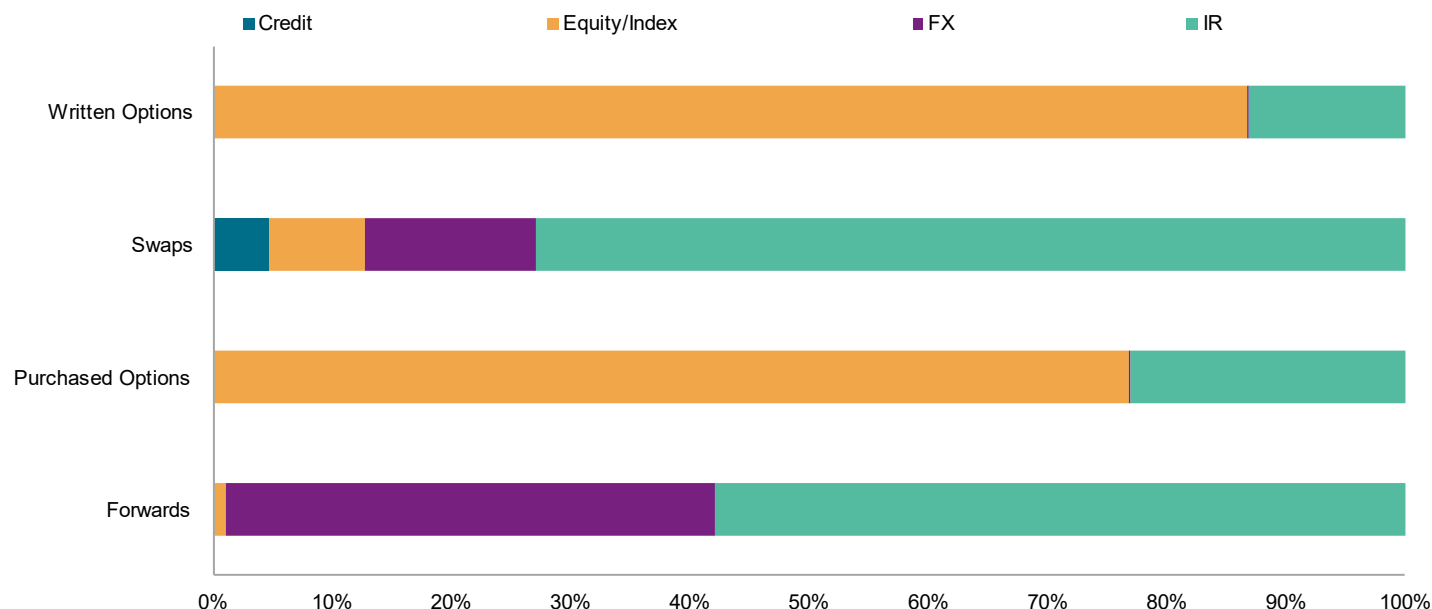


Granular risks on swaps and options

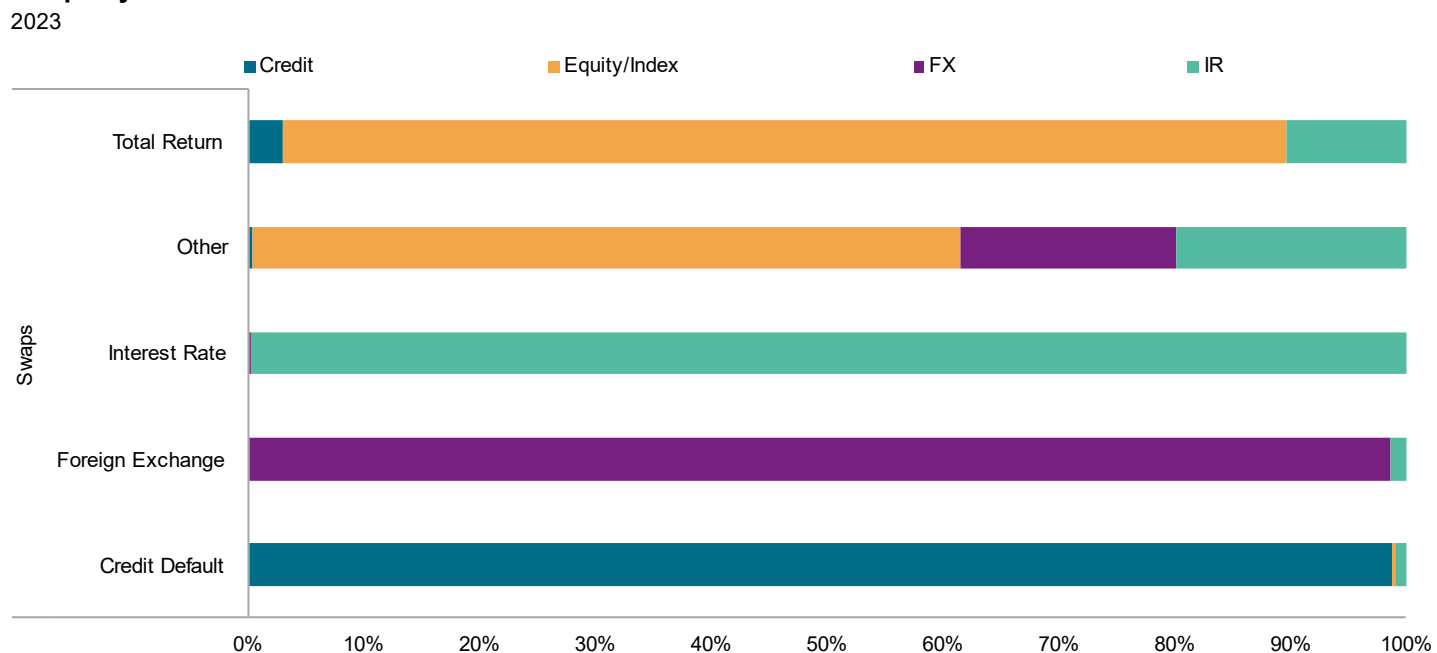
Options primarily bear equity risk, with a minor exposure to IR risk. Forwards are evenly divided between IR and FX. Conversely, swaps are predominantly concentrated in interest rate risk, with minimal exposure to FX, equity, and credit risks.

Derivatives Exposures by Type and Risks

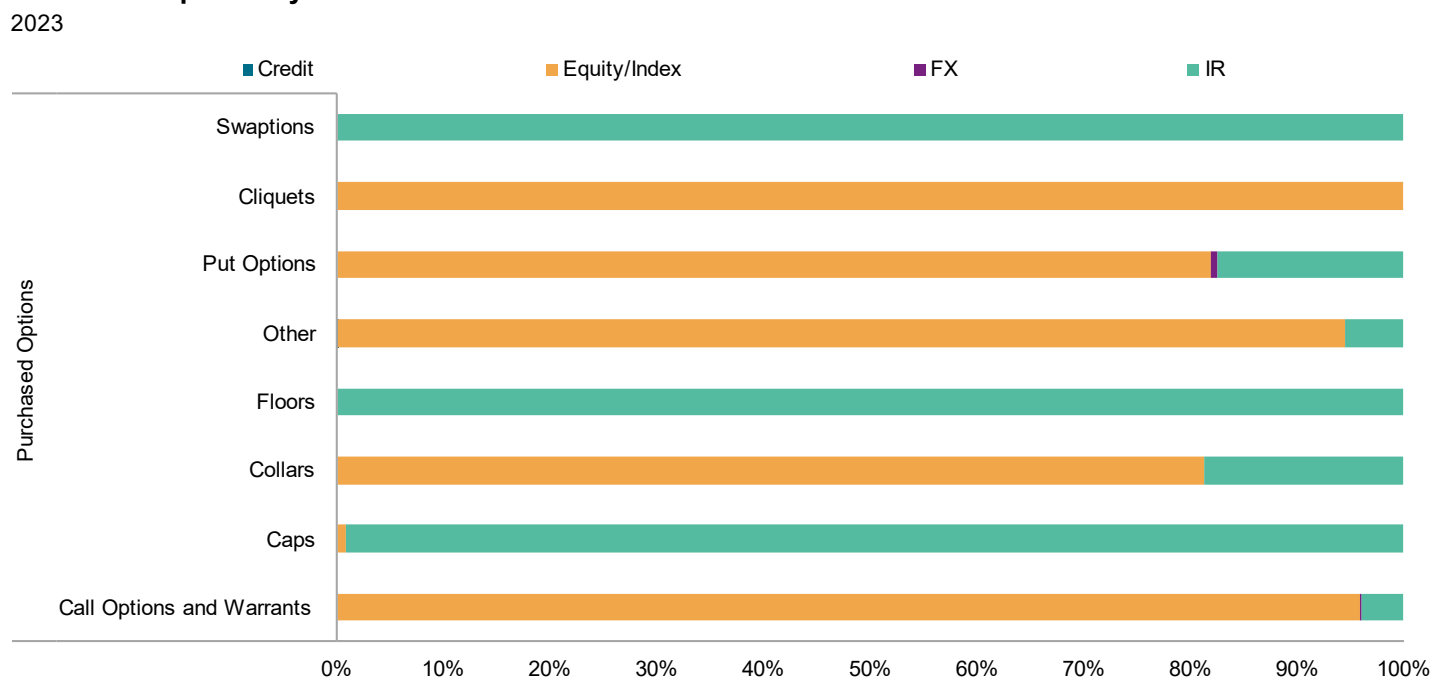
2023



Swaps by Risks



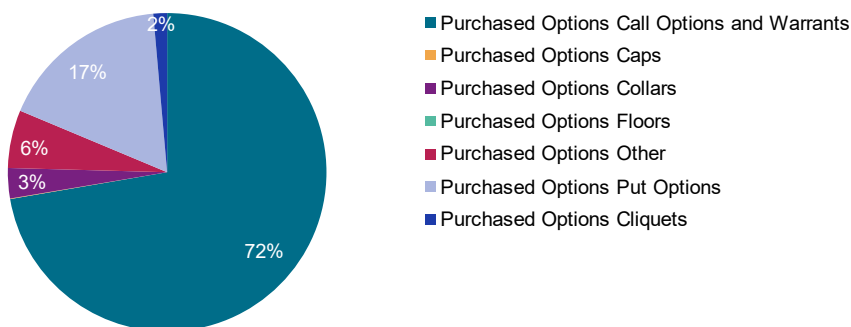
Purchased Options by Risks



Granular exposures on swaps and options

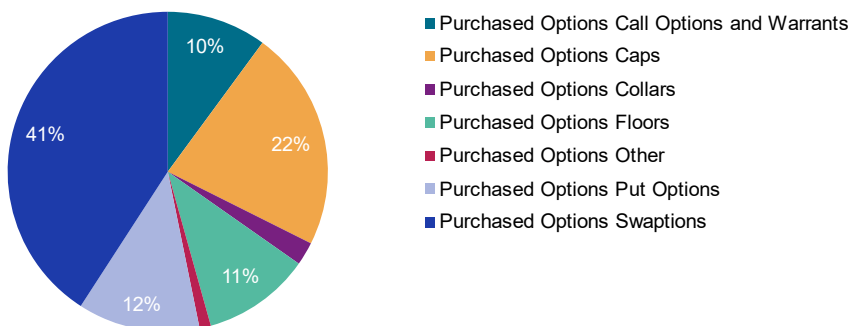
Examining at a more detailed level, for equity options, purchased calls, including cliquets and warrants, dominate trading activity, followed by put options for less than 20%. Collars are utilized at a notably low rate, comprising less than 3% of options strategies.

Purchased Equity Options Positions 2023



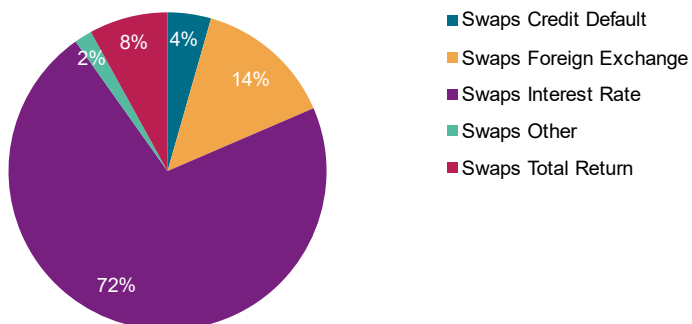
Meanwhile, IR options are more diversified around swaptions (predominantly), calls, puts, caps, floors and collars.

Purchased IR Options Positions 2023



Swaps primarily involve interest rates, with fewer participants in FX and minimal activity in TRS and CDS.

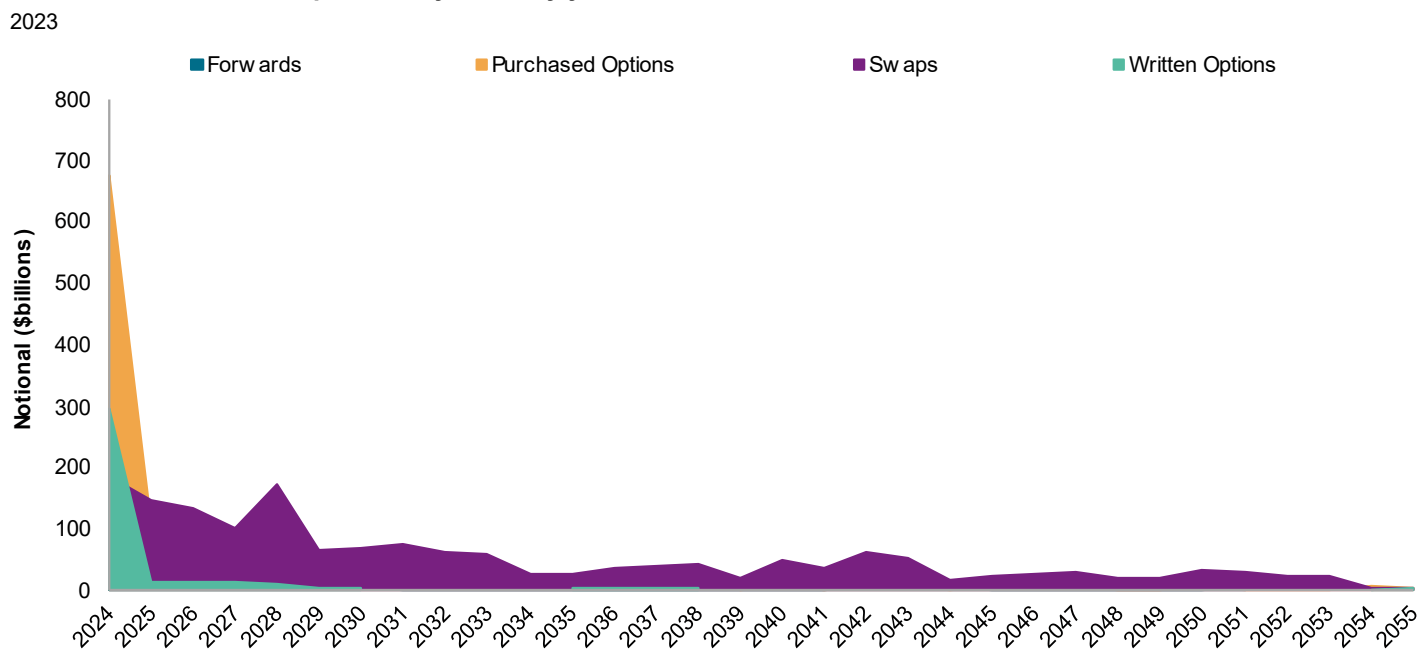
Swaps Positions 2023



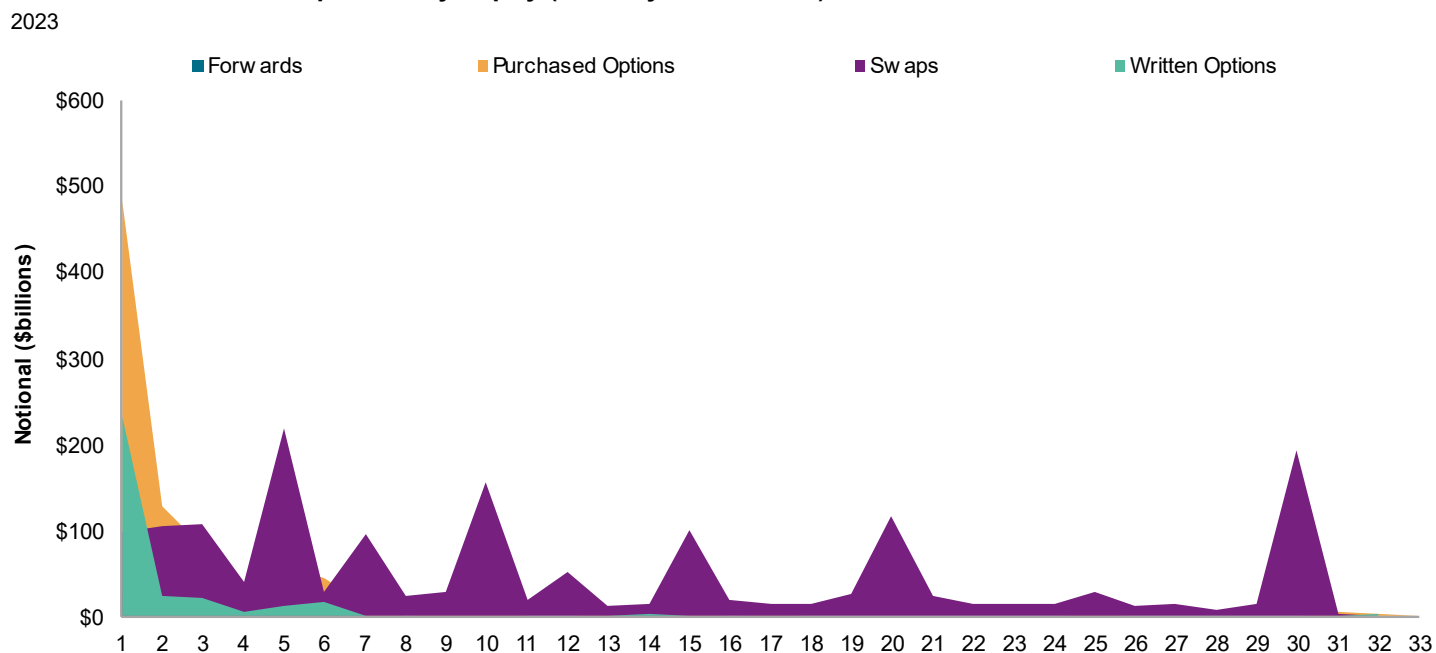
Exposures by maturity

When considering derivatives exposure by tenor maturity, equity options are certainly utilized as short-term hedging instruments (up to a maximum of 5 years), whereas swaps and little bit of swaptions exhibit a longer tail.

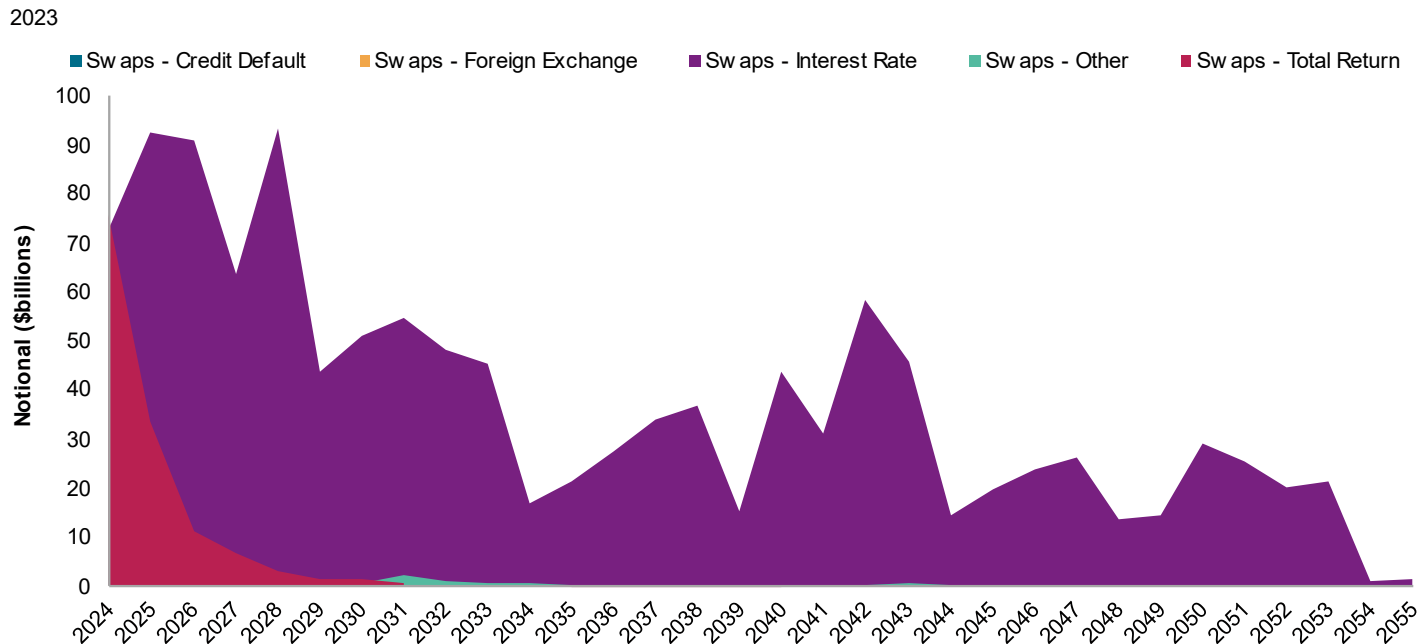
OTC derivatives total exposures by maturity year



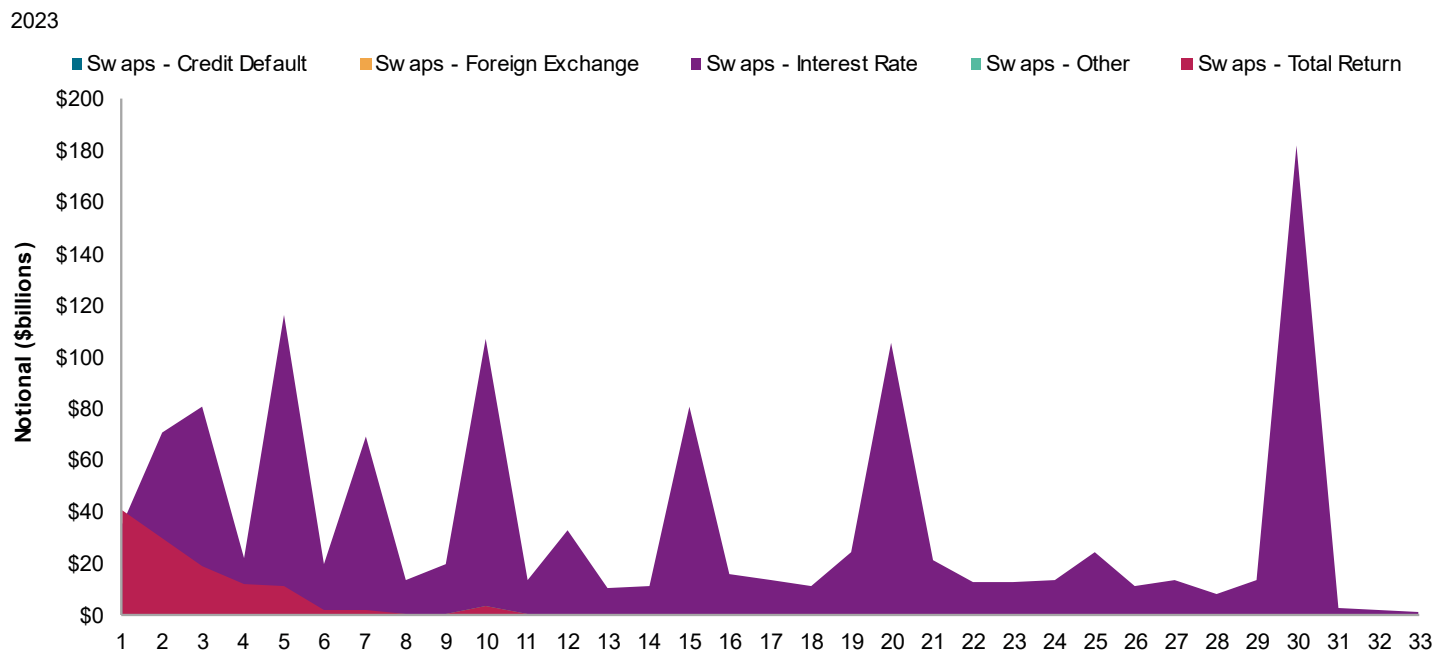
OTC derivatives total exposures by expiry (maturity - trade date)



OTC Derivatives - Swaps exposures by maturity year

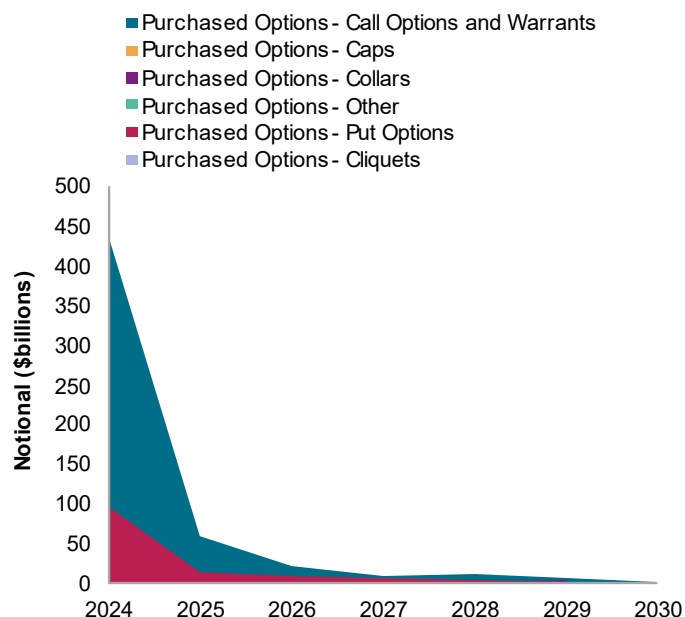


OTC Derivatives - Swaps exposures by expiry (maturity - trade date)



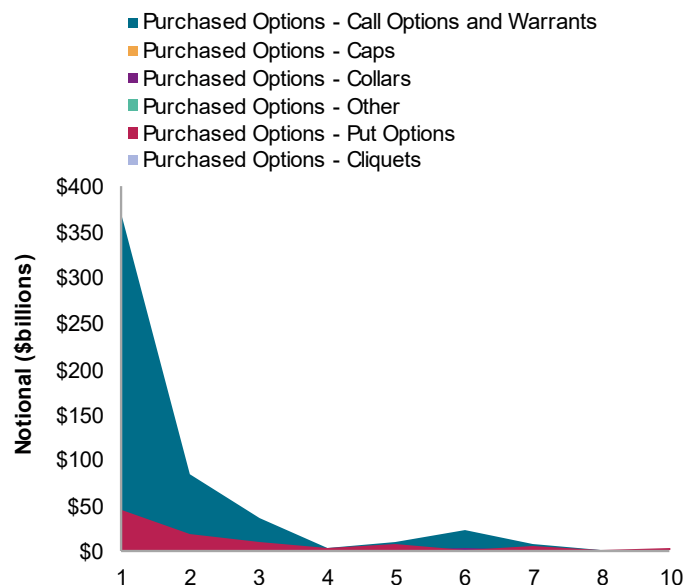
Equity options exposures by maturity year

2023



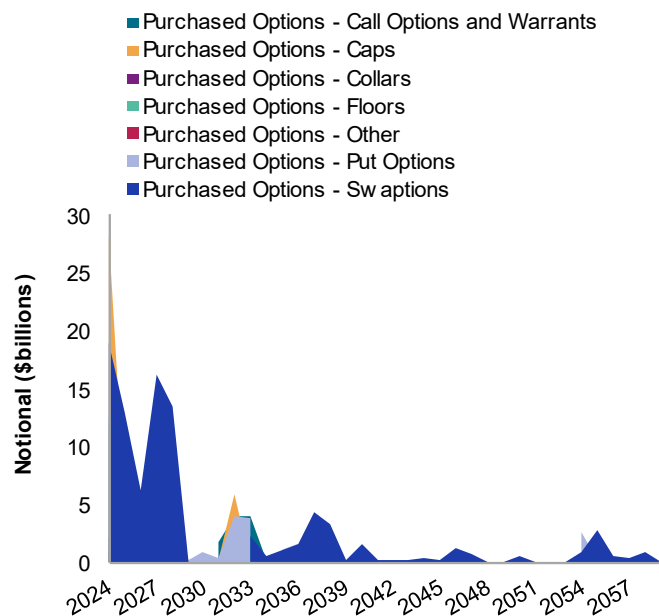
Equity options exposures by expiry (maturity - trade date)

2023



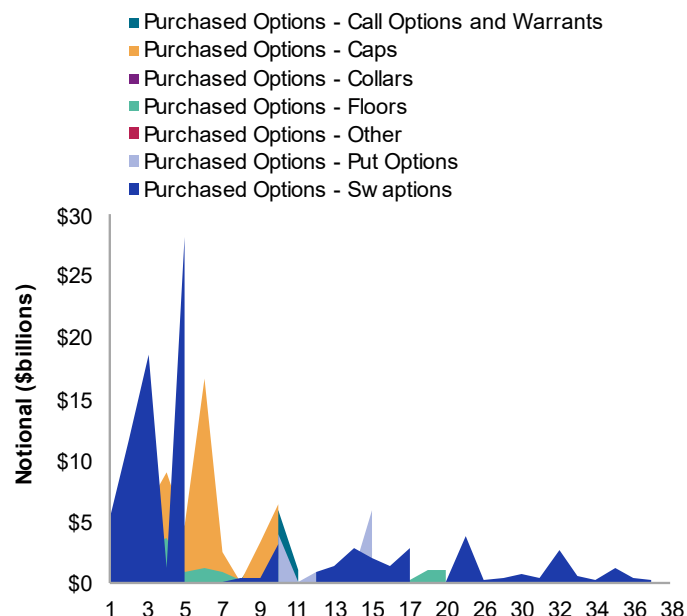
IR options exposures by maturity year

2023



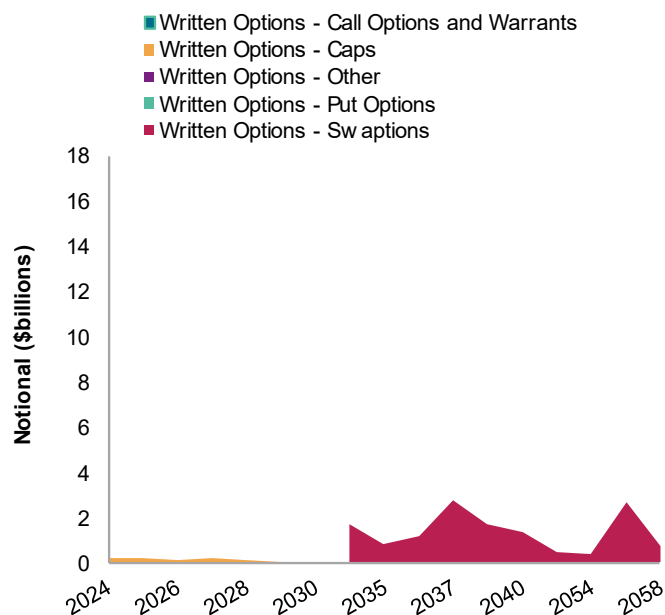
IR options exposures by expiry (maturity - trade date)

2023



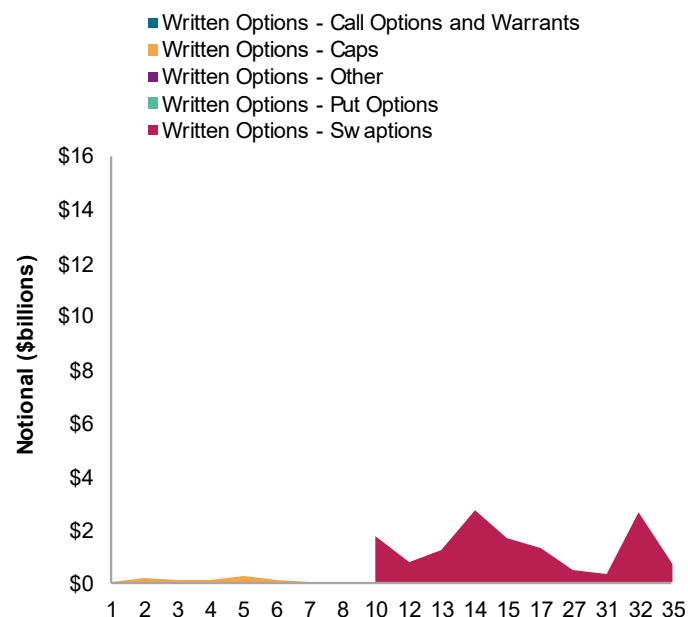
IR options exposures by maturity year

2023



IR options exposures by expiry (maturity - trade date)

2023



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