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U.S. Insurers' Derivative Exposure Increased 9% in 2018

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Executive Summary

- In 2018, 298 U.S. insurers reported exposure to derivatives, down from 311 in 2017.
- The notional value of derivative exposure rose 9% to about $2.6 trillion as of year-end 2018 from $2.4 trillion as of year-end 2017.
  - Swaps accounted for 48.7% of the total notional value, followed by options (44.5%), futures (4.7%) and forwards (2.1%).
  - Hedging remains the main purpose for U.S. insurers' use of derivatives, at 95% of the total notional value ($2.3 trillion).
  - Life companies accounted for 97% of the total notional value, followed by property/casualty (P/C) at 3%, with fraternal and health companies, combined, accounting for less than 1%.
- Collateral posted by U.S. insurers had a fair value of $16.7 billion, whereas collateral posted to U.S. insurers had a fair value of $34.2 billion.

The derivatives market has grown substantially since its creation and has become a useful tool for insurers

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U.S. Insurer Derivative Exposure

U.S. insurers primarily used derivatives to hedge risks (e.g., interest rate risk, credit risk, currency risk and equity risk) and, to a lesser extent, to replicate assets and generate additional income. Use of derivatives is not widespread in the U.S. insurance industry, with only 7% of U.S. insurers reporting derivative exposure. The number of U.S. insurers that reported derivative exposure decreased to 298 in 2018 from 311 in 2017 (see Table 1).

Table 1: U.S. Insurers with Derivative Exposure

Industry	Number of Companies with Derivatives Exposure	Number of Companies: Total Industry	Percentage of Companies with Derivatives Exposure	Notional Value of Derivatives Exposure ($Mil.)
Life	219	722	30%	2,478,355
P/C	64	2,608	2%	83,736
Fraternal	4	74	5%	2,069
Health	11	1,014	1%	269
Title	0	58	0%	-
Total	298	4,476	7%	2,564,429

Life companies accounted for 219 (73%) of the total number of U.S. insurers with derivatives exposure; they also represented 30% of the 722 total life companies. Among P/C companies, 64 out of 2,608 (2%) reported derivative exposure.

U.S. insurers' derivative exposure had a notional value of $2.6 trillion, a 9% increase from $2.4 trillion in 2017. Life companies accounted for 96.6% of the reported notional value at $2.5 trillion, followed by P/C companies, which accounted for 3.3% of the notional value.

Swaps were the largest derivative type reported, accounting for 49% of total derivative exposure, compared to 48% in 2017. Table 2 and Table 3 show that swaps increased 10% to $1.2 trillion, from $1.1 trillion in 2017. Options (the second-largest derivative type) increased to 45% ($1.1 trillion) of the total notional value of derivative exposure, up from 43% ($1 trillion) in 2017. Futures and forwards represented 5% and 2%, respectively, of the total notional value of derivative exposure at year-end 2018.

Table 2: U.S. Insurer Derivatives Type as of Year-end 2018 ($Mil., Notional)

Industry	Swaps	Options	Futures	Forwards	Total	Pct of Total
Life	1,226,080	1,079,167	115,097	49,370	2,469,714	97%
P/C	18,571	58,378	2,907	3,520	83,376	3%
Fraternal	578	1,147	990	-	2,715	0%
Health	210	-	773	32	1,014	0%
Total	1,245,439	1,138,692	119,766	52,922	2,556,819	100%
Pct of Total	49%	45%	5%	2%	100%	

Table 3: U.S. Insurer Derivative Type as of Year-end 2017 ($Mil., Notional)

U.S. insurer derivative exposure for hedging increased to $2.3 trillion from $2.2 trillion in 2017. Of the reported purposes for derivative exposure, hedging (which consists of "Hedging Other" and "Hedging Effective" in Table 4) accounted for 94% of the total notional value, with "Hedging Other" at 84% of the total. All other purposes accounted for the remaining 6%. (See Table 4.)

Table 4: U.S. Insurers' Derivative Exposure by Purpose/Strategy ($Mil., Notional)

Given strict criteria and the extensive documentation required, many hedges are not deemed effective[1] for accounting purposes, but they still provide strategic value; these positions, reported as "Hedging Other" on Schedule DB, are still intended to reduce risk, but they simply do not meet the accounting and documentation requirements.

Swap exposure increased about 10%, following a 6% increase from the previous year. Interest rate swaps remain the largest contract type at 79% of notional value compared to 80% in 2017. Currency swaps increased to 10% of notional value from 9%. U.S. insurers' exposure to total return and credit default swaps (CDS), and other types of swaps as a percentage of notional value remained unchanged from 2017 (see Table 5). As of year-end 2018, the vast majority (95%) of swap contracts were for hedging risk.

[1] According to the , a hedge generally is considered effective when "the change in fair value of the derivative hedging instrument is within 80 to 125 percent of the opposite change in fair value of the

Table 5: U.S. Insurers' Swap Exposure by Contract Type ($Mil., Notional)

Table 6 shows U.S. insurers' option exposure by type of contract and company type as of year-end 2018. Call options (calls) increased 30% to $529 billion, which is 46% of the total options' notional value ($1.1 trillion). 2018 was the second year of double-digit growth in calls for U.S. insurers, following a 53% increase in 2017. Calls for hedging accounted for about 97.5% ($516 billion) of all call transactions, unchanged from 2017.

Life and P/C companies accounted for approximately 99.9% of the industry's total option exposure.

Table 6: Option Exposure by Type of Contract ($Mil., Notional)

Table 7 shows the insurance industry's use of options by type according to the risks hedged. Equity risk, the largest category

Table 8: Industry CDS Exposure ($Mil., Notional)

CDS can either be bought or sold for different purposes. To buy protection is to reduce (short) credit risk, and to sell (write) protection is to assume (go long) credit risk. Credit sentiment among U.S. insurers remains positive, as indicated by the ratio of bought protection falling to 17% of total protection from 23% in 2017. Selling protection was 83% of total CDS exposure in 2018.

In 2018, replication was the dominant use of CDS at 90% of reported transactions, although CDS for hedging increased to 10% from 7% in 2017.

Counterparty Exposure

According to the NAIC counterparty exposure is the exposure to credit risk associated with the use of derivative instruments with that counterparty. The BACV of counterparty exposure is net of collateral

$21.8 billion in 2016.