

KEY TRENDS IN THE SIZE AND COMPOSITION OF OTC DERIVATIVES MARKETS

OTC Derivatives Notional Outstanding Rises; Market Value and Credit Exposure Decline

This paper analyzes recent trends in the size and composition of over-the-counter (OTC) derivatives markets, using the latest data from the Bank for International Settlements (BIS) and ISDA.

According to the BIS, OTC derivatives notional outstanding increased during the first half of 2018, driven largely by a rise in short-term US dollar-denominated interest rate derivatives (IRD) contracts. This increase in notional outstanding can also be seen in swap trading volumes in the US, as trading in short maturity US dollar IRD products rose significantly.

While notional outstanding of OTC derivatives increased, the gross market value of these contracts declined. Gross credit exposure – gross market value after netting – also declined to its lowest level in 10 years. Following the implementation of the new margin rules for non-cleared derivatives, more and more of that gross credit exposure is collateralized.

KEY HIGHLIGHTS

- OTC derivatives notional outstanding was \$594.8 trillion at the end of the first half of 2018, an increase of 12% compared with year-end 2017 and 10% compared with the end of the first half of 2017¹. The growth was mainly due to an increase in IRD notional outstanding, which grew by 13% sequentially and 11% year-over-year. IRD accounted for 81% of total notional outstanding at the end of the first half of 2018 (Chart 1).
- The increase in IRD notional outstanding was driven by US-dollar denominated contracts, which increased to \$192.5 trillion at the end of the first half of 2018, up 23% from \$156.5 trillion at year-end 2017, and up 21% from \$159 trillion at the end of the first half of 2017. US-dollar denominated contracts represented 40% of total IRD notional outstanding at mid-year 2018 compared to 37% at the end of 2017 and mid-year 2017 (Chart 2).
- The proportion of short-term IRD contracts increased. At mid-year 2018, 48% of IRD notional outstanding had a remaining maturity of one year or less, compared to 45% at the end of 2017 and 46% at mid-year 2017. At year-end 2016, such contracts were 43% of total IRD notional outstanding (Chart 3).
- In US dollar terms, the outstanding notional of IRD with a remaining maturity up to and including one year was \$231.3 trillion at mid-year 2018, compared to \$191.4 trillion at year-end 2017 (an increase of 21%) and \$199.2 trillion at mid-year 2017 (an increase of 16%).
- The increase in US dollar-denominated notional outstanding can also be seen in swap trading volumes in the US². Trading in US dollar-denominated IRD products – particularly the shorter-term forward rate agreements (FRAs) and overnight index swaps (OIS), but also in fixed-for-floating swaps – rose significantly during the first half of 2018, reflecting the changing interest rate environment in the US market (Charts 4 and 5).

¹ BIS derivatives statistics

² Based on the data from the Depository Trust and Clearing Corporation (DTCC) and Bloomberg swap data repositories (SDRs). See ISDA SwapsInfo website www.swapsinfo.org/

- US dollar-denominated IRD trading volume in the US during the first half of 2018 was \$84.6 trillion, up 48% compared to the second half of 2017 (\$57 trillion) and up 22% compared to the first half of 2017 (\$69.2 trillion). 75% of the trading volume in the first half of 2018 was in contracts with a term of one year or less³. More specifically:
 - FRA traded notional totaled \$35 trillion in the first half of 2018, up 49% from \$23.4 trillion in the second half of 2017, and up 26% from \$27.8 trillion in the first half of 2017.
 - OIS traded notional totaled \$18.3 trillion in the first half of 2018, up 56% from \$11.7 trillion in the second half of 2017, and up 2% from \$17.9 trillion in the first half of 2017.
 - Fixed-for-floating IRS traded notional totaled \$19.7 trillion in the first half of 2018, up 34% from \$14.7 trillion in second half of 2017, and up 23% from \$15.9 trillion in the first half of 2017.
- While notional outstanding of OTC derivatives increased, the gross market value of OTC derivatives totaled \$10.3 trillion at the end of the first half of 2018, a decline of 6% compared to the year-end 2017, and a decrease of 19% compared to the end of the first half of 2017⁴. Gross market value totaled 1.7% of notional outstanding at the end of the first half of 2018 compared with 2.1% at year-end 2017, and 2.3% at the end of the first half of 2017 (Chart 6).
- The BIS research points to three potential reasons for ongoing structural changes in OTC derivatives markets, resulting in declining gross market value⁵. These changes include central clearing, greater possibilities for trade compression and a greater number of banks that have been using the settled-to-market (STM) approach⁶.

³ Term is calculated as the amount of time between the effective date and the end date

⁴ Gross market value is the sum of the absolute values of all outstanding derivatives contracts with either positive or negative replacement values evaluated at market prices prevailing on the reporting date. See [BIS Glossary](#)

⁵ Statistical Release: [OTC Derivatives Statistics at End-June 2018](#)

⁶ Under the STM approach, daily payments of variation margin are recorded as settlements of the derivatives transactions rather than as transfers of collateral and the market value of the derivatives is reset daily to zero. This results in lower market values for derivatives

- The gross credit exposure of OTC derivatives, which is a more accurate measure of counterparty credit risk, continued to decline and reached \$2.6 trillion at the end of the first half of 2018⁷ (Chart 7). As the result of close-out netting, market participants reduced their mark-to-market exposure by about 75% at the end of first half of 2018 (Chart 8).
- Following the implementation of the margin rules for non-cleared derivatives from September 2016, the amount of collateral received and posted by market participants has been increasing. The ISDA margin survey for the full year 2017 found that the amount of initial margin (IM) and variation margin (VM) exchanged (received and posted) by the 20 largest market participants (phase-one firms) for their non-cleared derivatives totaled about \$1.7 trillion at year-end 2017 (Table 1). Additionally, \$194.1 billion in IM had been posted by all market participants to major central counterparties for their cleared IRD and credit default swap transactions at the end of 2017⁸.
- As more firms become subject to the margin requirements, ISDA expects IM and VM to continue to grow, and net credit exposure of OTC derivatives, which adjusts gross credit exposure for collateral, to continue to decline⁹.

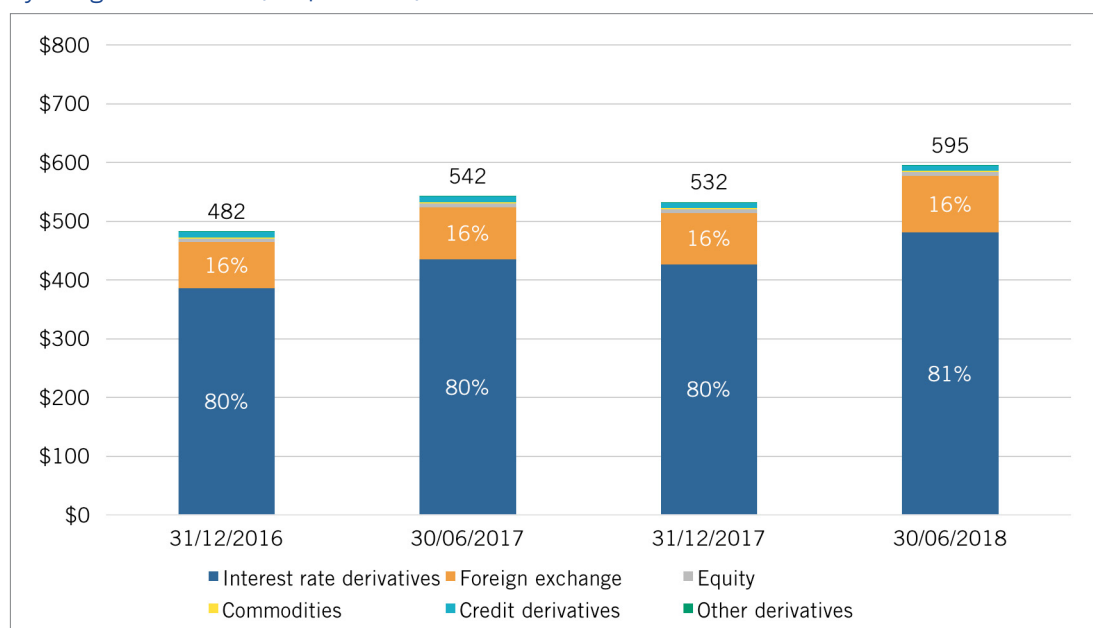
⁷ Gross credit exposure adjusts gross market value for legally enforceable netting agreements, but not for collateral. See [BIS Glossary](#)

⁸ [ISDA Margin Survey Full Year 2017](#)

⁹ Net credit exposure adjusts gross credit exposure for collateral posted and received by counterparties

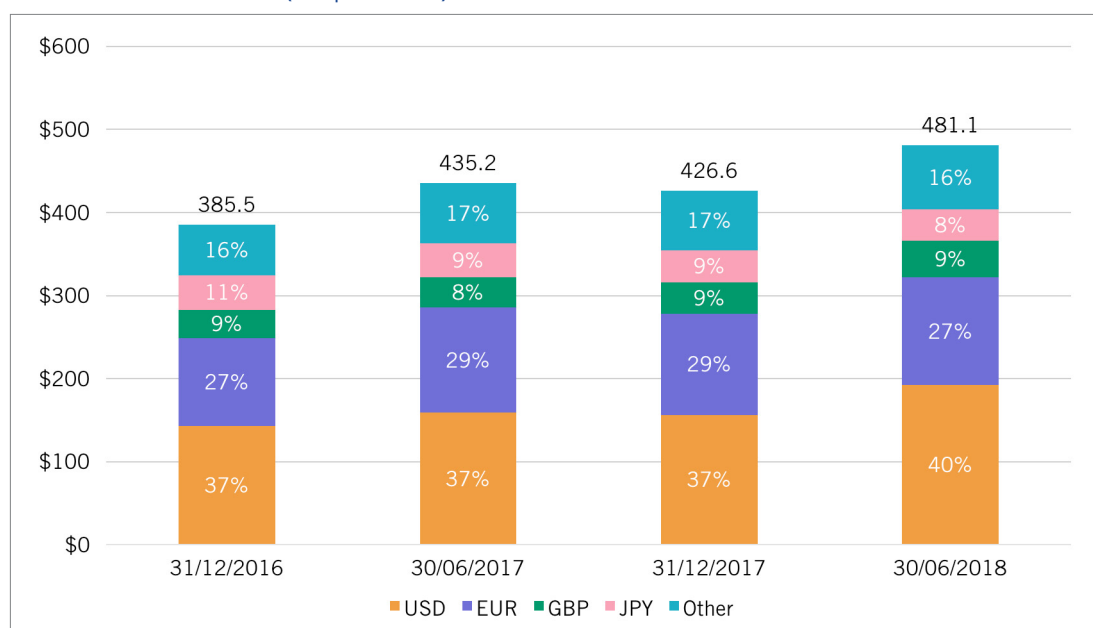
KEY TRENDS

Chart 1: Global OTC derivatives notional outstanding increased in the first half of 2018 driven by the growth in IRD (US\$ trillions)

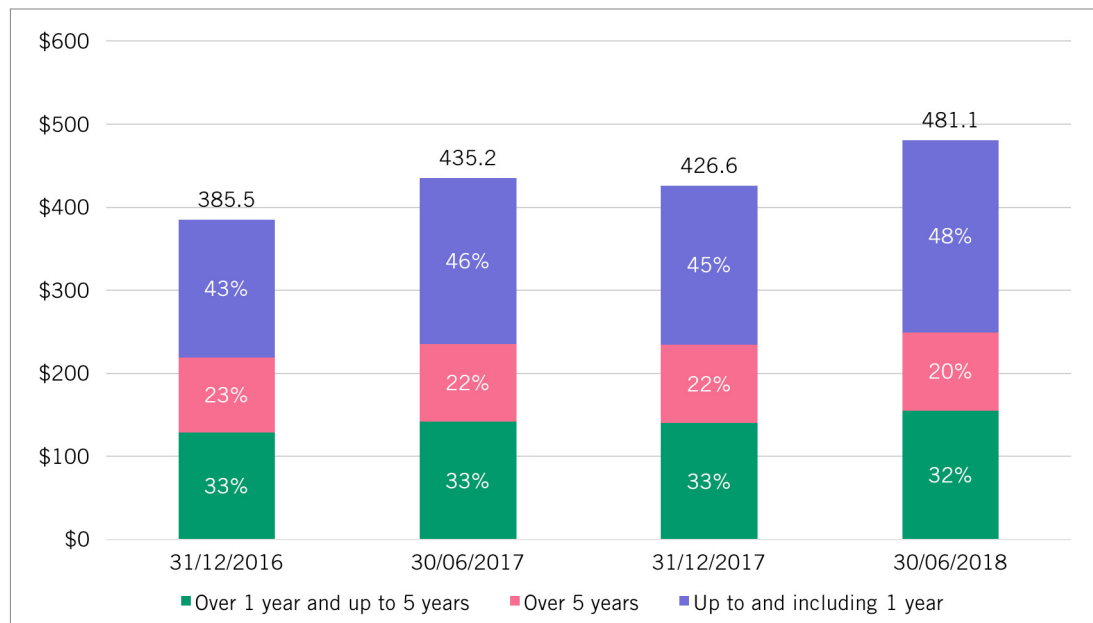


Source: BIS OTC Derivatives Statistics

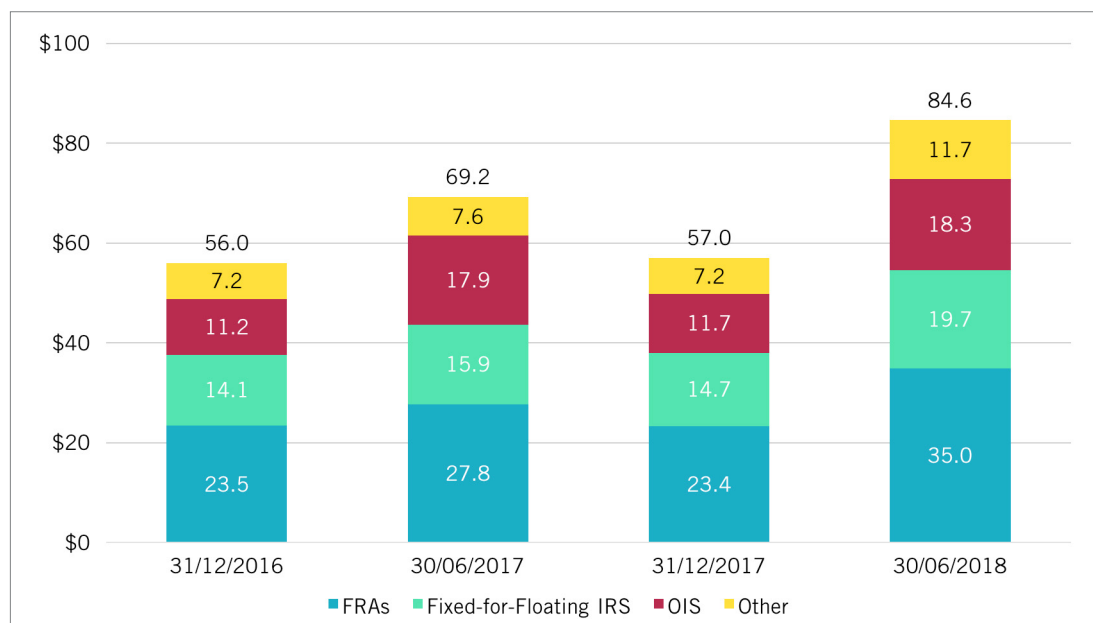
Chart 2: The increase in IRD notional outstanding was mainly driven by US dollar-denominated contracts (US\$ trillions)



Source: BIS OTC Derivatives Statistics

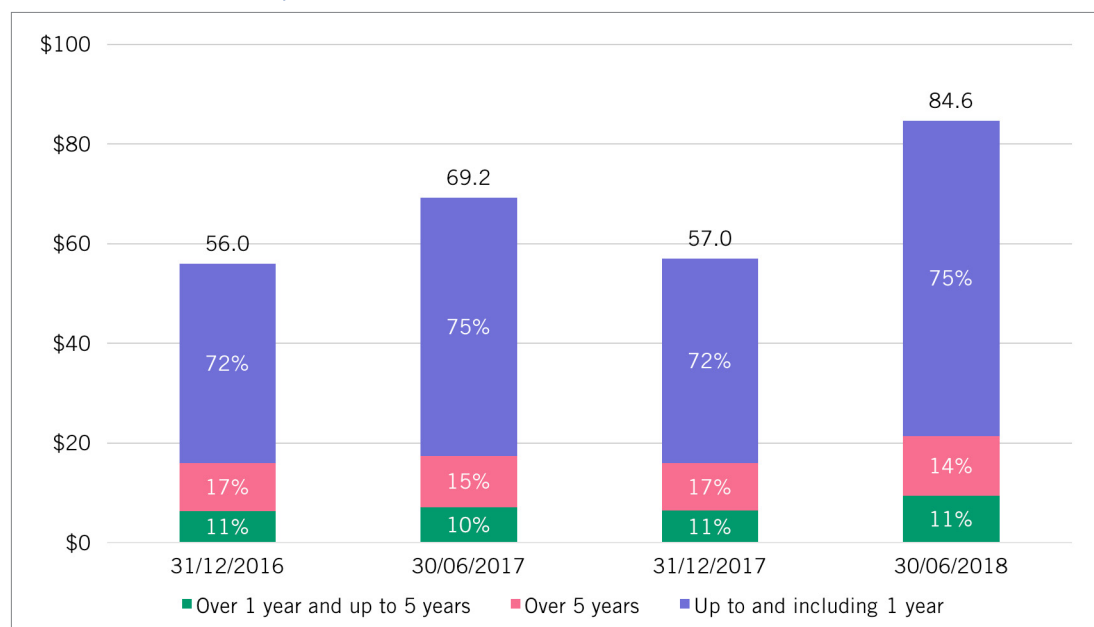
Chart 3: The portion of IRD contracts with short-term maturity increased (US\$ trillions)

Source: BIS OTC Derivatives Statistics

Chart 4: US dollar-denominated IRD traded notional in the US increased during the first half of 2018 (US\$ trillions)

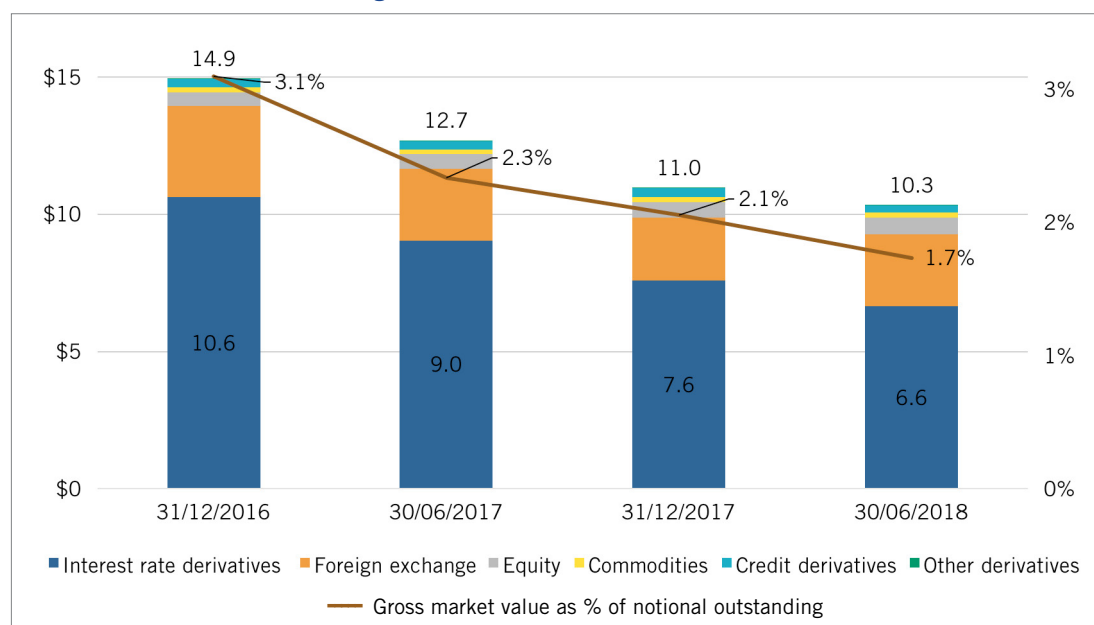
Source: DTCC and Bloomberg SDRs

Chart 5: Short-term US dollar-denominated contracts accounted for majority of IRD traded notional in the US (US\$ trillions)



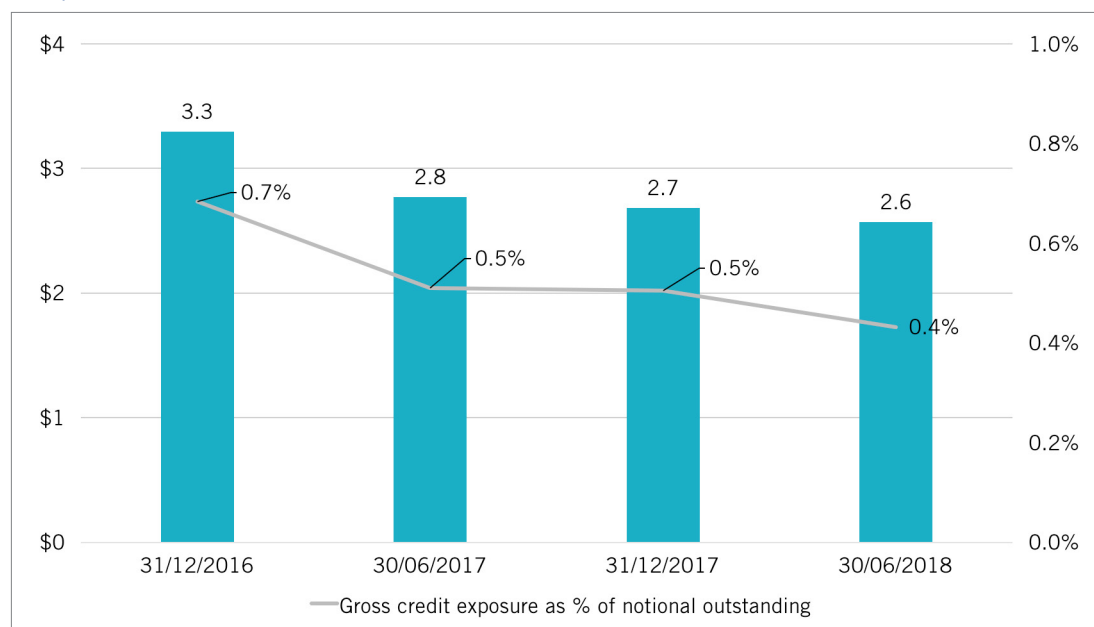
Source: DTCC and Bloomberg SDRs

Chart 6: Gross market value of global OTC derivatives continued to decline (US\$ trillions)



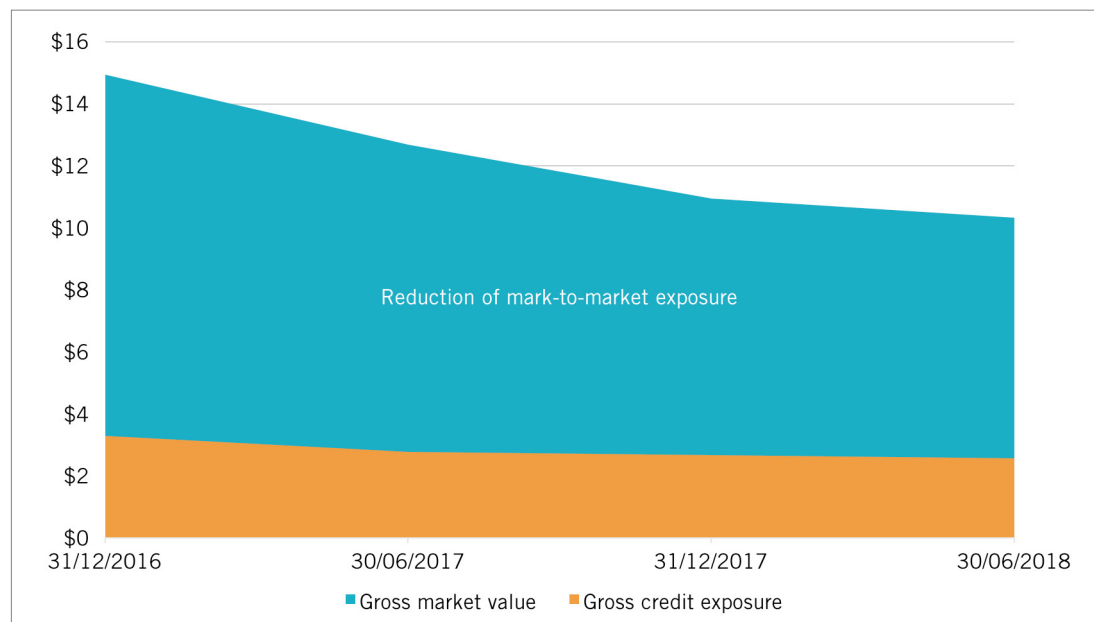
Source: BIS OTC Derivatives Statistics

Chart 7: Gross credit exposure of global OTC derivatives dropped to \$2.6 trillion (US\$ trillions)



Source: BIS OTC Derivatives Statistics

Chart 8: As the result of close-out netting, market participants reduced their mark-to-market exposure by about 75% at the end of the first half of 2018 (US\$ trillions)



Source: BIS OTC Derivatives Statistics

Table 1: Phase-one firms exchanged about \$1.7 trillion of IM and VM and for their non-cleared derivatives at year-end 2017

	Year-end 2017 (US\$ billions)
IM posted	81.7
IM received	130.6
VM posted	631.7
VM received	893.7
Total margin exchanged	1737.6

Source: ISDA Margin Survey



ISDA has published other recent research papers:

- ***Interest Rate Benchmarks Review: Q3 2018 and Nine Months Ended Sep 30, 2018, November 2018***

<https://www.isda.org/2018/11/08/interest-rate-benchmarks-review-3q-2018-and-nine-months-ended-sep-30-2018/>

- ***SwapsInfo Third Quarter of 2018 and Year-to-September 30, 2018 Review, November 2018*** <https://www.isda.org/category/research/swapsinfo/>

- ***Actual Cleared Volumes vs. Mandated Cleared Volumes: Analyzing the US Derivatives Market, July 2018***

<https://www.isda.org/a/6yYEE/Actual-Cleared-Volumes-vs-Mandated-Cleared-Volumes.pdf>

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Since 1985, ISDA has worked to make the global derivatives markets safer and more efficient. Today, ISDA has more than 900 member institutions from 70 countries. These members comprise a broad range of derivatives market participants, including corporations, investment managers, government and supranational entities, insurance companies, energy and commodities firms, and international and regional banks. In

addition to market participants, members also include key components of the derivatives market infrastructure, such as exchanges, intermediaries, clearing houses and repositories, as well as law firms, accounting firms and other service providers. Information about ISDA and its activities is available on the Association's web site: www.isda.org. Follow us on Twitter @ISDA.