

# KEY TRENDS IN THE SIZE AND COMPOSITION OF OTC DERIVATIVES MARKETS IN THE SECOND HALF OF 2019

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The latest data from the Bank for International Settlements (BIS) over-the-counter (OTC) derivatives statistics shows that OTC derivatives notional outstanding at year-end 2019 increased by 2.6% compared with year-end 2018 and decreased by 12.8% compared with mid-year 2019. Some of this change reflects a seasonal pattern, in which notional outstanding tends to increase in the first six months of the year and decrease in the second half.

The gross market value of OTC derivatives contracts was 20.0% higher than year-end 2018 and 3.8% lower versus mid-year 2019. Gross credit exposure – gross market value after netting – also increased compared to year-end 2018 and decreased versus mid-year 2019. Market participants reduced their mark-to-market exposure by about 79.7% at year-end 2019 as a result of close-out netting. Credit exposure is further reduced by the collateral that market participants post for cleared and non-cleared transactions.

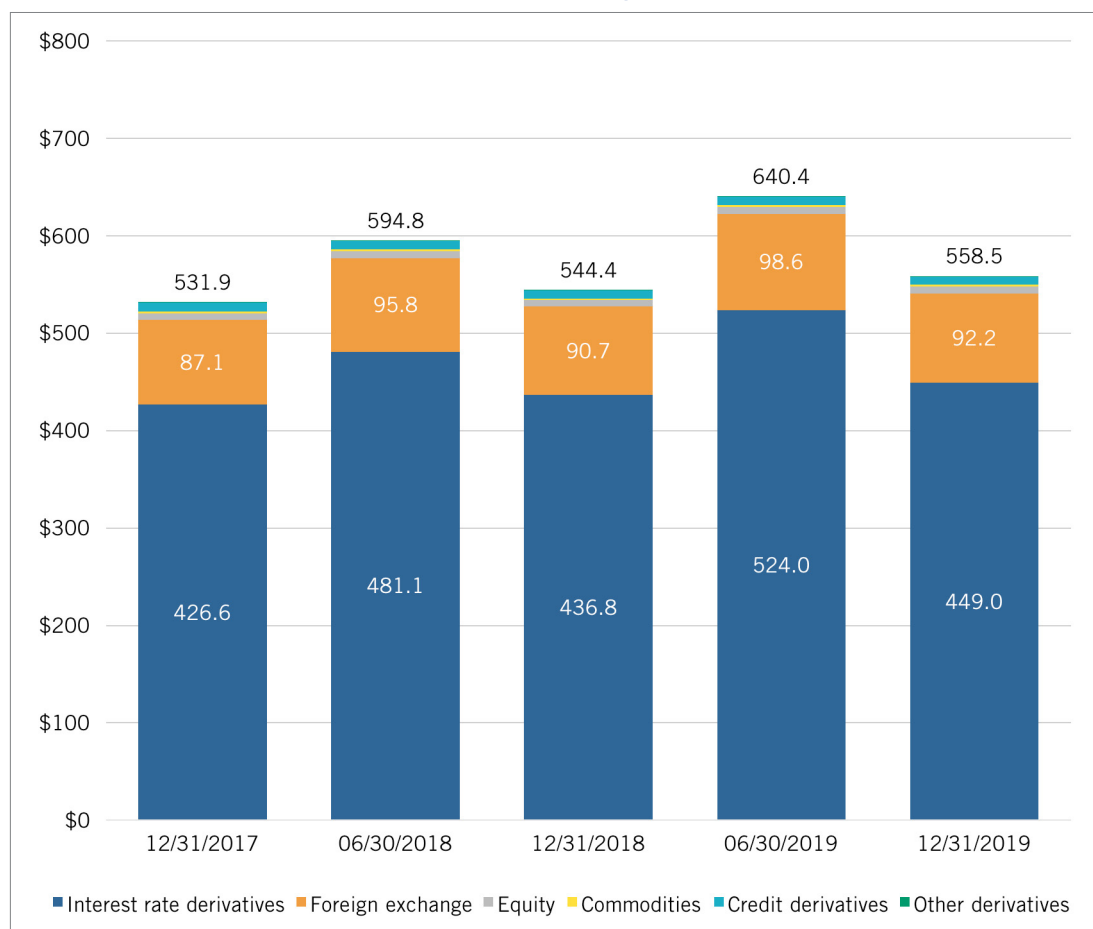
At year-end 2019, market participants posted \$269.1 billion of initial margin (IM) for cleared interest rate derivatives (IRD) and credit default swaps (CDS) contracts (including single-name and index CDS) at all major central counterparties (CCPs). The 20 largest market participants (phase-one firms) collected approximately \$173.2 billion of IM for their non-cleared derivatives transactions at year-end 2019.

The trend in notional outstanding can also be seen in swap trading volumes in the US. ISDA SwapsInfo data shows that trading in IRD products decreased during the second half of 2019 compared to the first six months of the year, and increased compared to the second half of 2018.

## KEY TRENDS

OTC derivatives notional outstanding totaled \$558.5 trillion at the end of December 2019, a 2.6% increase compared with year-end 2018 and 12.8% lower versus mid-year 2019<sup>1,2</sup> (see Chart 1).

**Chart 1:** Global OTC Derivatives Notional Outstanding (US\$ trillions)



Source: BIS OTC Derivatives Statistics

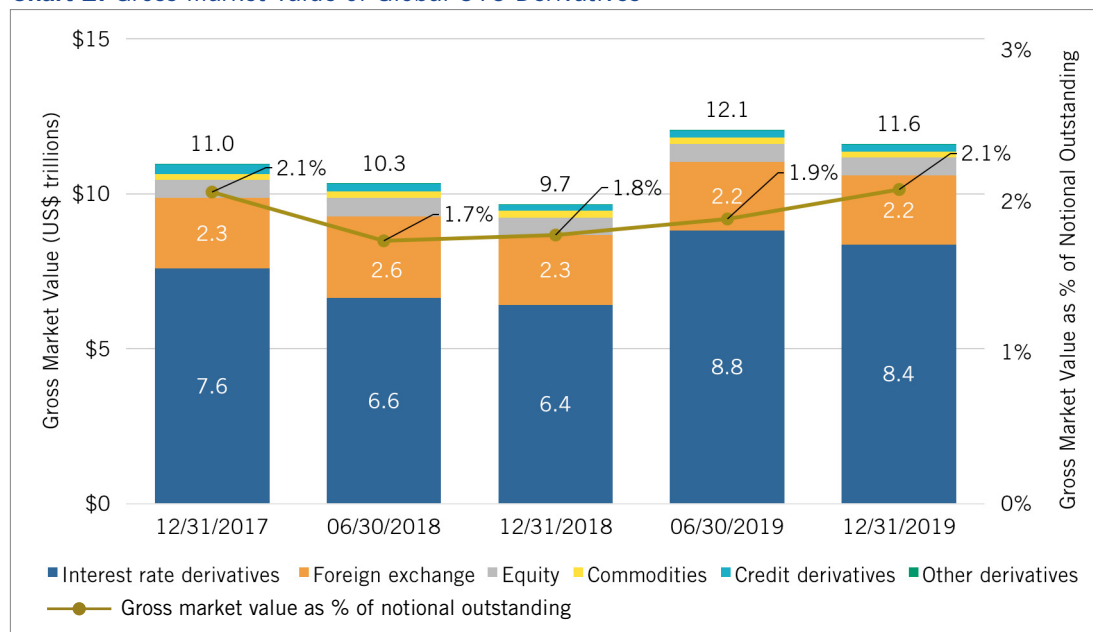
The gross market value of OTC derivatives totaled \$11.6 trillion at year-end 2019, 20.0% higher than year-end 2018 and 3.8% lower versus mid-year 2019<sup>3</sup> (see Chart 2). Gross market value equaled 2.1% of notional outstanding at year-end 2019 compared with 1.8% at year-end 2018.

<sup>1</sup> BIS OTC Derivatives Statistics <https://www.bis.org/statistics/derstats.htm>

<sup>2</sup> As noted in the BIS commentary, this change reflects a seasonal pattern evident in the data since 2016. Notional amounts outstanding tend to be higher in the first half of the year compared with year-end values. End-of-year contractions can occur if dealer banks and/or their clients shrink their outstanding notional derivatives positions for regulatory and financial reporting purposes [https://www.bis.org/publ/otc\\_hy2005.pdf](https://www.bis.org/publ/otc_hy2005.pdf)

<sup>3</sup> 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](#)

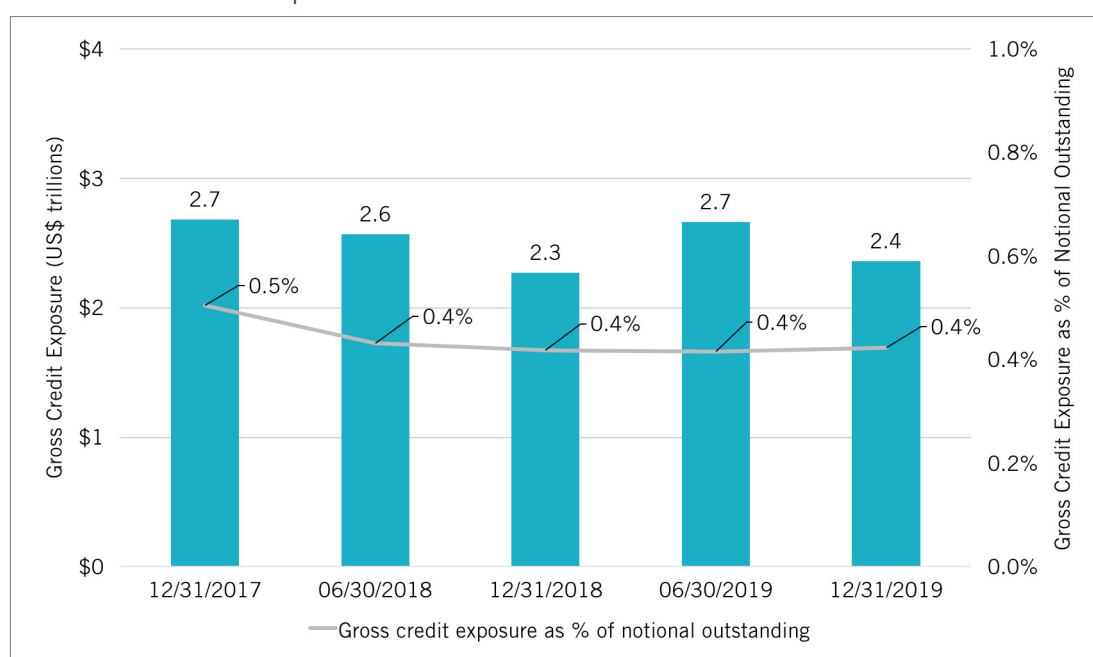
**Chart 2: Gross Market Value of Global OTC Derivatives**



Source: BIS OTC Derivatives Statistics

The gross credit exposure of OTC derivatives, which is a more accurate measure of counterparty credit risk, also increased versus year-end 2018 and decreased compared to mid-year 2019 (see Chart 3). It totaled \$2.4 trillion and accounted for 0.4% of notional outstanding at year-end 2019<sup>4</sup>.

**Chart 3: Gross Credit Exposure of Global OTC Derivatives**

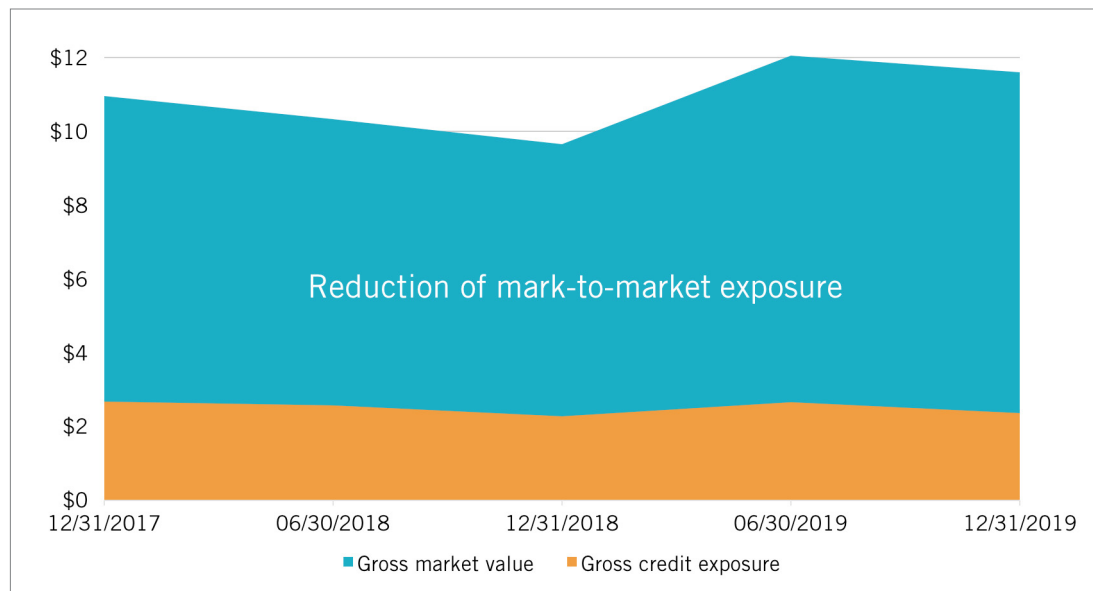


Source: BIS OTC Derivatives Statistics

Market participants reduced their mark-to-market exposure by about 79.7% at year-end 2019 as a result of close-out netting (see Chart 4). Credit exposure is further reduced by the collateral that market participants post for cleared and non-cleared transactions.

<sup>4</sup>Gross credit exposure adjusts gross market value for legally enforceable netting agreements, but not for collateral. See [BIS Glossary](#)

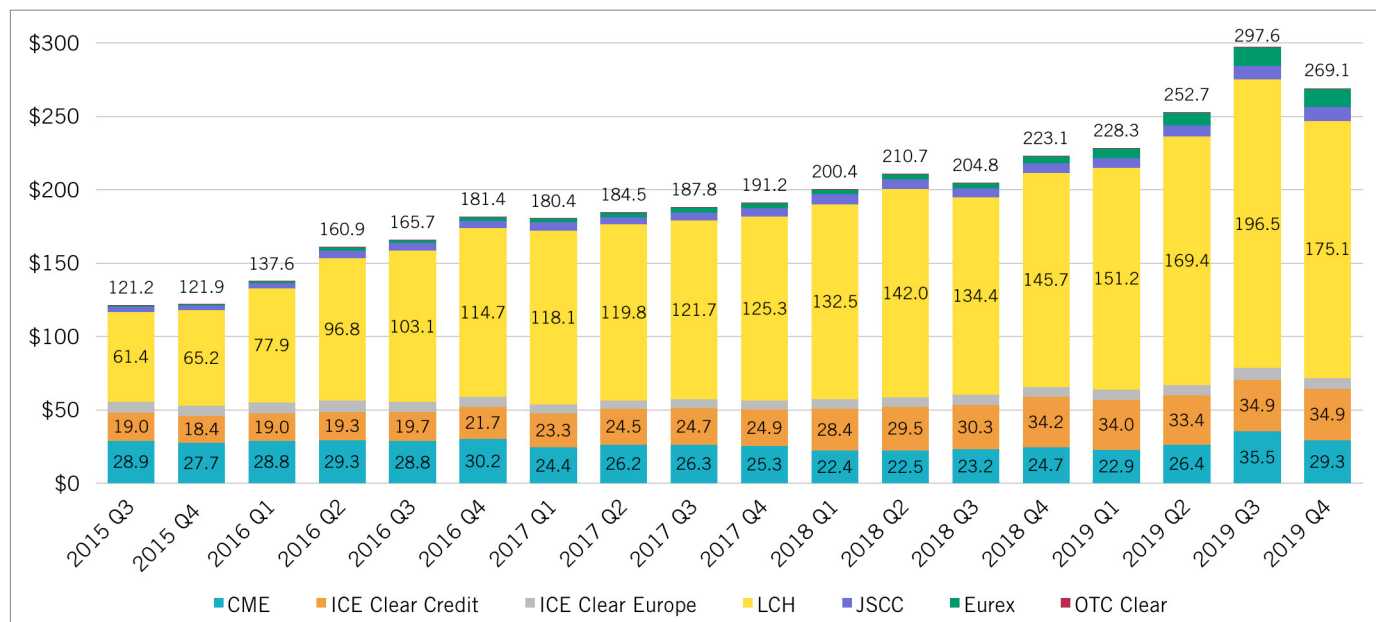
**Chart 4:** Reduction of Mark-to-market Exposure (US\$ trillions)



Source: BIS OTC Derivatives Statistics

The amount of IM for cleared derivatives, including IRD and CDS, continued to increase in 2019. Total IM posted for cleared IRD and both single-name and index CDS reached \$269.1 billion at all major CCPs at year-end 2019 (see Chart 5).

**Chart 5:** IM for IRD and CDS (US\$ billions)



Source: CCP disclosures

The amount of collateral received and posted by market participants for non-cleared derivatives has also been increasing. According to the latest ISDA Margin Survey, the 20 largest market participants (phase-one firms) collected approximately \$173.2 billion of IM for their non-cleared derivatives transactions at year-end 2019<sup>5</sup>.

<sup>5</sup> ISDA Margin Survey Year-End 2019 <https://www.isda.org/a/1F7TE/ISDA-Margin-Survey-Year-end-2019.pdf>

Of this amount, \$105.2 billion was collected from counterparties currently in scope of the regulatory IM requirements. A further \$68.0 billion of IM was collected from counterparties and/or for transactions that are not in scope of the margin rules (independent amount (IA)), including legacy transactions (see Table 1).

In addition to these amounts, phase-one firms collected \$44.0 billion of IM for their inter-affiliate derivatives transactions at year-end 2019.

**Table 1:** Phase-one Firms Regulatory IM and IA (US\$ billions)

	2019	2018	2017
<b>Regulatory IM Received</b>	105.2	83.8	73.7
<b>IA Received</b>	68.0	74.1	56.9
<b>Total IM Received</b>	173.2	157.9	130.6
<b>Regulatory IM Posted</b>	105.6	83.2	75.2
<b>IA Posted</b>	9.5	10.1	6.4
<b>Total IM Posted</b>	115.0	93.3	81.7

Source: ISDA Margin Survey

## Interest Rate Derivatives

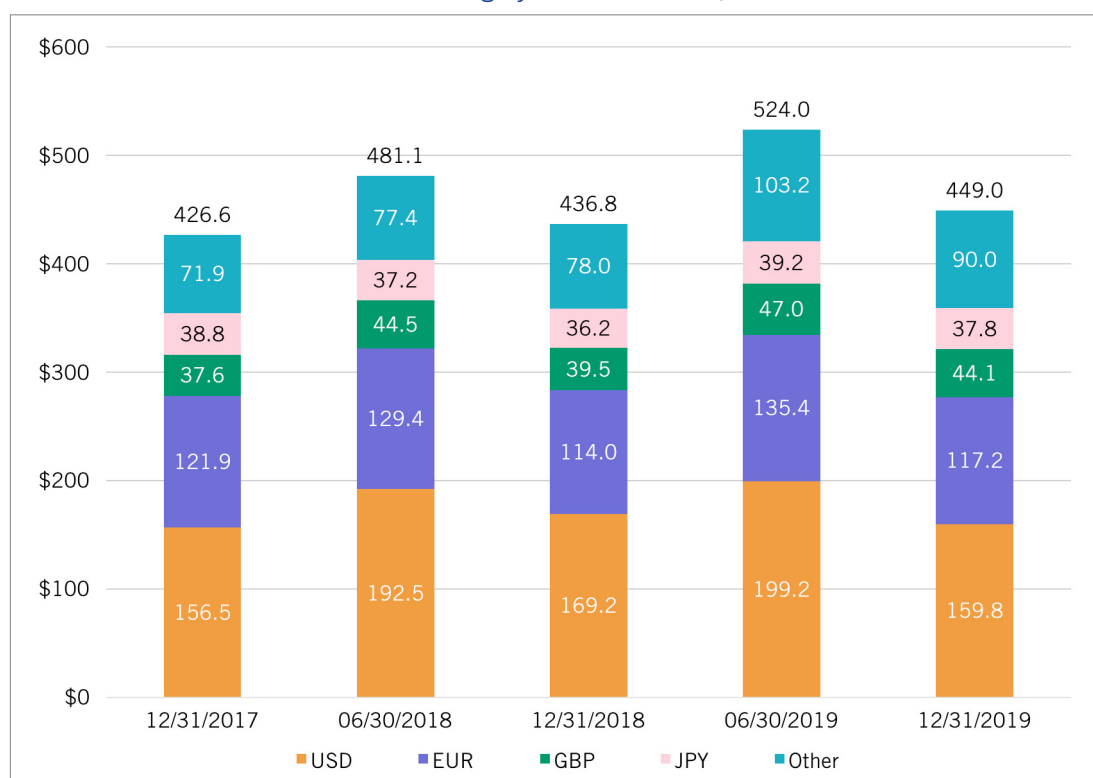
IRD notional outstanding totaled \$449.0 trillion at year-end 2019, and accounted for 80.4% of total notional outstanding. IRD notional outstanding increased by 2.8% versus year-end 2018 and decreased by 14.3% compared to mid-year 2019, essentially mirroring the growth of the total derivatives market.

US dollar-denominated IRD notional outstanding totaled \$159.8 trillion at year-end 2019, down by 5.5% versus year-end 2018 and 19.8% compared to mid-year 2019 (see Chart 6). US dollar-denominated IRD notional outstanding accounted for 35.6% of total notional outstanding at year-end 2019 compared to 38.7% at year-end 2018.

Euro-denominated IRD notional outstanding totaled \$117.2 trillion at year-end 2019, up by 2.8% from year-end 2018 and down by 13.5% compared with mid-year 2019. It accounted for 26.1% of total notional outstanding at year-end 2019, unchanged from year-end 2018.

IRD notional outstanding denominated in other currencies totaled \$90.0 trillion at year-end 2019 compared to \$78.0 trillion at year-end 2018, and accounted for 20.0% of total notional outstanding versus 17.9% at year-end 2018.

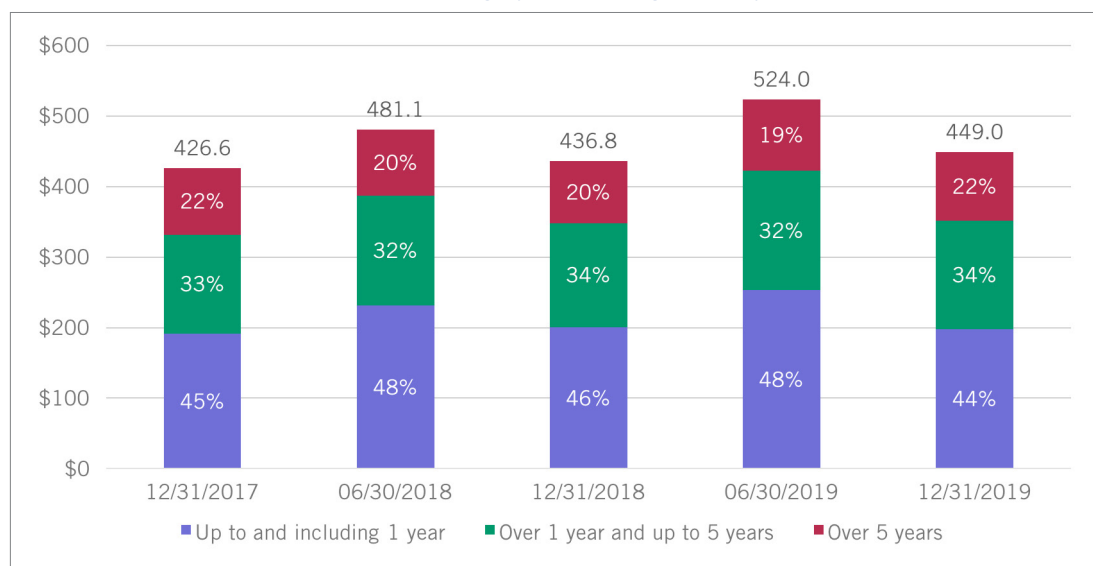
**Chart 6: Global IRD Notional Outstanding by Currencies (US\$ trillions)**



Source: BIS OTC Derivatives Statistics

IRD contracts with a remaining maturity of up to and including one year totaled \$197.7 trillion at year-end 2019 and accounted for 44.0% of global IRD notional outstanding (see Chart 7). IRD notional outstanding with a remaining maturity of over one year and up to five years equaled \$153.5 trillion (34.2% of total notional outstanding), and IRD contracts with remaining maturity of over five years totaled \$97.4 trillion (21.7% of total notional outstanding).

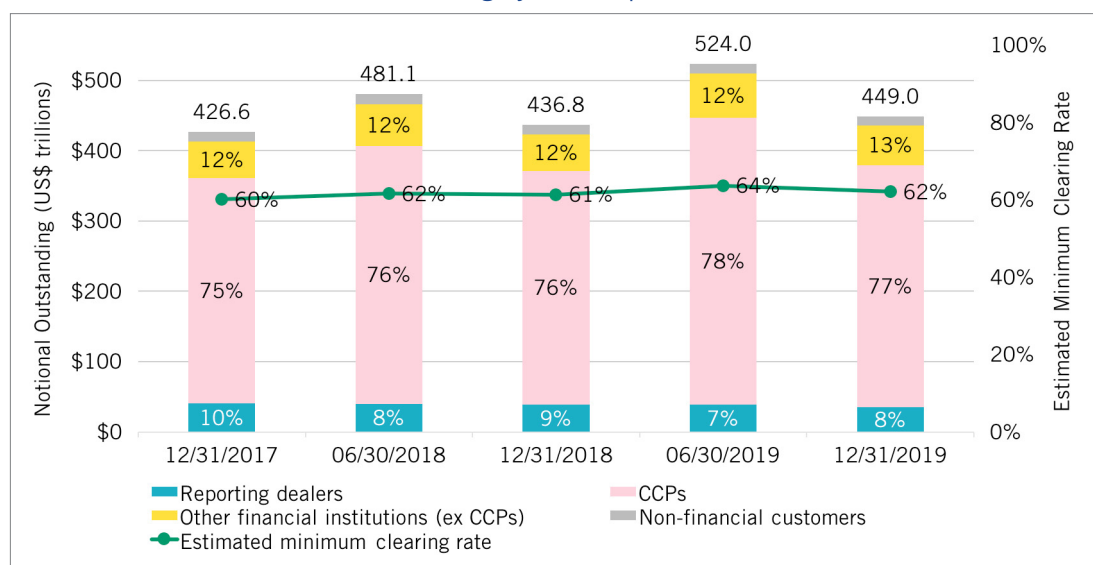
**Chart 7: Global IRD Notional Outstanding by Remaining Maturity (US\$ trillions)**



Source: BIS OTC Derivatives Statistics

The share of IRD notional outstanding with CCPs was 76.6% in the second half of 2019 and totaled \$344.0 trillion (see Chart 8). The estimated minimum clearing rate for IRD was 62.1%<sup>6</sup>. In comparison, the share of IRD notional with CCPs was 76.0% and the estimated minimum clearing rate for IRD was 61.3% at year-end 2018.

**Chart 8: Global IRD Notional Outstanding by Counterparties (US\$ trillions)**



Source: BIS OTC Derivatives Statistics

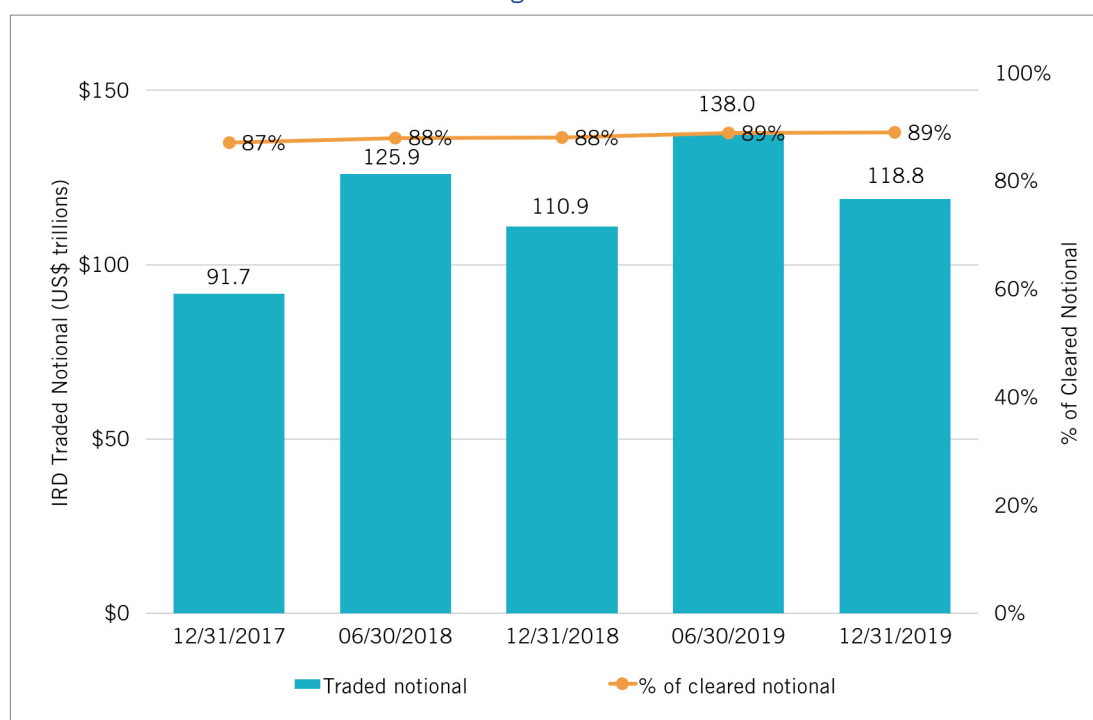
<sup>6</sup> The estimated minimum clearing rate adjusts for potential double-counting of interdealer trades novated to CCPs. It is calculated as  $(CCP / 2) / (1 - (CCP / 2))$ , where CCP represents the share of notional amounts outstanding that dealers report against CCPs. The true clearing rate is likely to be higher as many trades will be initiated with CCPs

The trend in global IRD notional outstanding is also mirrored in swap trading volumes in the US. ISDA SwapsInfo data shows that trading in IRD products increased by 7.2% during the second half of 2019 compared to the second half of 2018, and declined by 13.9% compared to the first half of 2019<sup>7</sup>.

IRD traded notional totaled \$118.8 trillion in the second half of 2019, compared to \$110.9 trillion in the second half of 2018 and \$138.0 trillion in the first half of 2019 (see Chart 9).

The clearing rate in the US has been fluctuating between 87% and 89% since the end of 2017. In the second half of 2019, about 89% of IRD traded notional was cleared.

**Chart 9: IRD Traded Notional and Percentage of Cleared Notional in the US**



Source: DTCC and Bloomberg SDRs

US dollar-denominated IRD trading volume in the US totaled \$78.2 trillion in the second half of 2019, up by 4.0% compared to the second half of 2018 (\$75.2 trillion) and down by 15.0% compared to the first half of 2019 (see Chart 10). It accounted for 65.8% of total IRD traded notional in the second half of 2019.

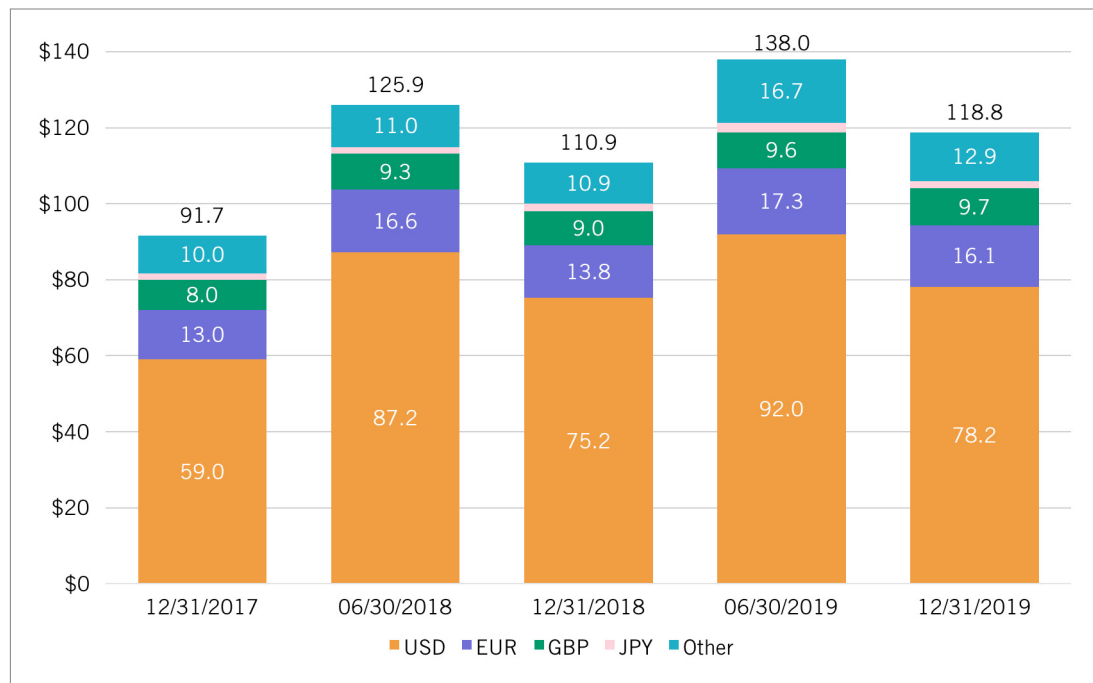
Euro-denominated IRD trading volume in the US totaled \$16.1 trillion in the second half of 2019, up by 16.6% compared to the second half of 2018 (\$13.8 trillion) and down by 6.9% compared to the first half of 2019 (\$17.3 trillion). It represented 13.6% of total IRD traded notional in the second half of 2019.

IRD traded notional denominated in other currencies totaled \$12.9 trillion in the second half of 2019, accounting for 10.9% of total IRD traded notional. In comparison, it was \$10.9 trillion in the second half of 2018 and represented 9.8% of total IRD traded notional.

<sup>7</sup> 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](http://www.swapsinfo.org)



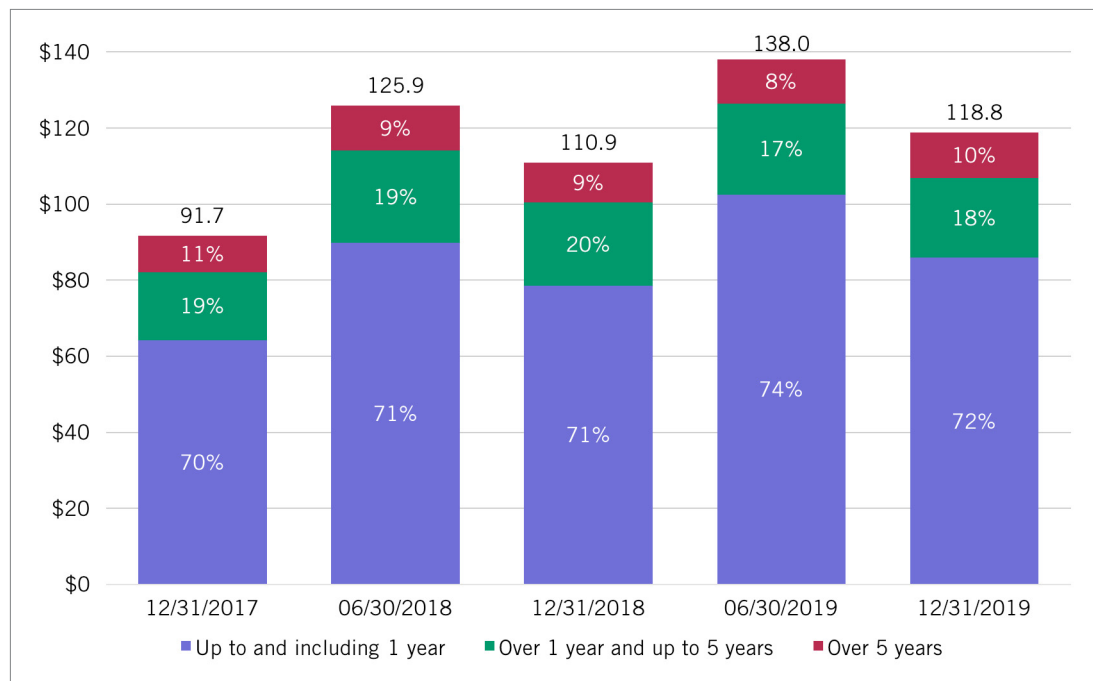
**Chart 10: IRD Traded Notional in the US by Currency (US\$ trillions)**



Source: DTCC and Bloomberg SDRs

In the second half of 2019, 72.3% of total IRD trading was in contracts with a tenor up to and including one year<sup>8</sup>. Contracts with a tenor over one year and up to five years accounted for 17.7% of total IRD traded notional, while contracts with a tenor over five years totaled 10.0% (see Chart 11).

**Chart 11: IRD Traded Notional in the US by Tenor (US\$ trillions)**



Source: DTCC and Bloomberg SDRs

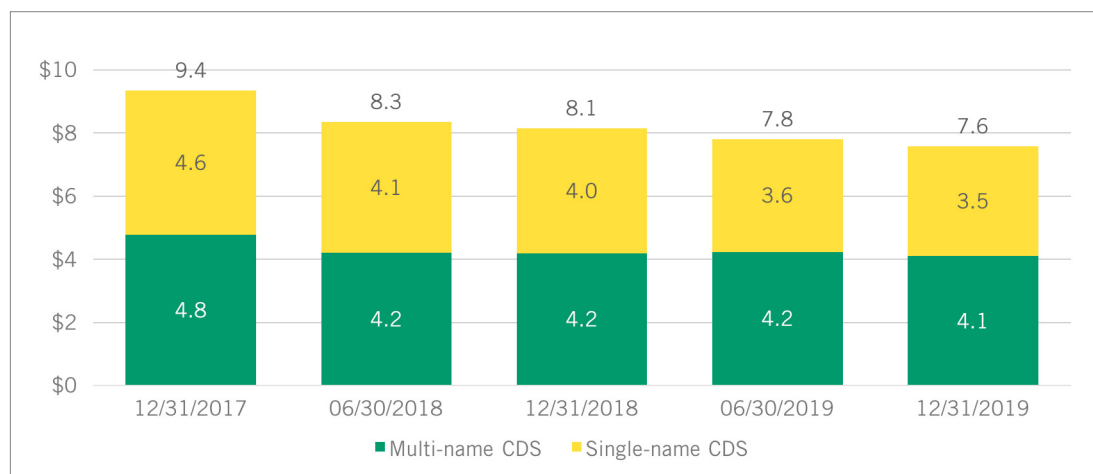
<sup>8</sup> Tenor is calculated as the difference between the effective date and the end date

## Credit Default Swaps

According to the BIS data, CDS notional outstanding (including single name and index CDS) declined to \$7.6 trillion at year-end 2019, down by 6.9% from \$8.1 trillion at year-end 2018 and by 3.0% from \$7.8 trillion at mid-year 2019 (see Chart 12).

Single-name CDS notional declined by 11.9% to \$3.5 trillion at year-end 2019 from \$4.0 trillion at year-end 2018, while multiple-name CDS notional decreased by 2.2% to \$4.1 trillion over the same period.

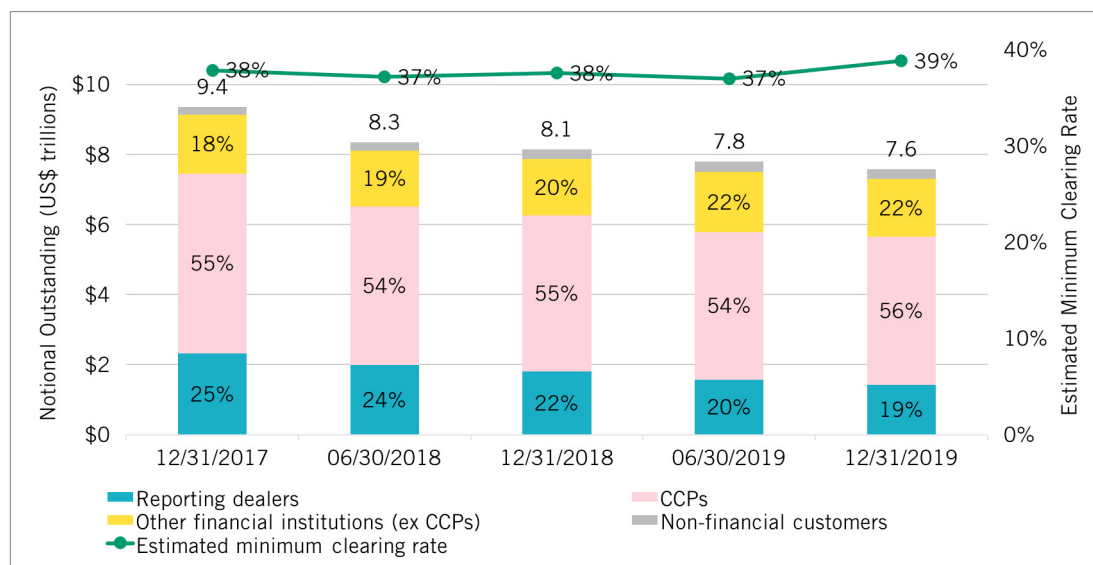
**Chart 12: Global CDS Notional Outstanding (US\$ trillions)**



Source: BIS OTC Derivatives Statistics

The share of CDS notional outstanding with CCPs was approximately 55.9% in the second half of 2019 and totaled \$4.2 trillion (see Chart 13). The estimated minimum clearing rate for CDS contracts was around 38.8%.<sup>9</sup> In comparison, the share of CDS notional with CCPs was 54.6% and the estimated minimum clearing rate for CDS was 37.5% at year-end 2018.

**Chart 13: Global CDS Notional Outstanding by Counterparties (US\$ trillions)**



Source: BIS OTC Derivatives Statistics

<sup>9</sup> The estimated minimum clearing rate adjusts for potential double-counting of inter-dealer trades novated to CCPs. It is calculated as  $(CCP / 2) / (1 - (CCP / 2))$ , where CCP represents the share of notional amounts outstanding that dealers report against CCPs. The true clearing rate is likely to be higher as many trades will be initiated with CCPs



ISDA has published other recent research papers:

- ***SwapsInfo First Quarter of 2020 Review, April 2020***

<https://www.isda.org/a/8bOTE/SwapsInfo-Q1-2020-Review-Full-Report.pdf>

- ***Interest Rate Benchmarks Review: First Quarter of 2020, April 2020***

<https://www.isda.org/a/k6qTE/Interest-Rate-Benchmarks-Review-First-Quarter-of-2020.pdf>

- ***ISDA Margin Survey Year-End 2019, April 2020***

<https://www.isda.org/a/1F7TE/ISDA-Margin-Survey-Year-end-2019.pdf>

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