

KEY TRENDS IN THE SIZE AND COMPOSITION OF OTC DERIVATIVES MARKETS IN THE FIRST HALF OF 2021

The latest data from the Bank for International Settlements (BIS) over-the-counter (OTC) derivatives statistics shows a significant decrease in the gross market value and gross credit exposure of interest rate derivatives (IRD) and foreign exchange (FX) derivatives during the first half of 2021 compared to the first half of 2020 and year-end 2020.

Gross market value and gross credit exposure of OTC derivatives significantly increased in 2020 amid pandemic-related market uncertainty. The decline in the first half of 2021 represents a return to pre-pandemic levels and was driven by a less uncertain macroeconomic outlook.

OTC derivatives notional outstanding increased by 0.5% at mid-year 2021 compared to mid-year 2020 and grew by 4.8% compared to year-end 2020. Some of this change reflects a seasonal pattern, under which notional outstanding tends to increase in the first half of the year and decrease in the second half.

The gross market value of OTC derivatives contracts at the end of June 2021 was 18.5% lower than mid-year 2020 and 20.1% lower than year-end 2020. Gross credit exposure – gross market value after netting – decreased by 15.3% compared to mid-year 2020 and by 19.4% compared to year-end 2020.

Market participants reduced their mark-to-market exposure by about 78.5% at mid-year 2021 due to close-out netting. This credit exposure is further reduced by the collateral that market participants post for cleared and non-cleared derivatives transactions.

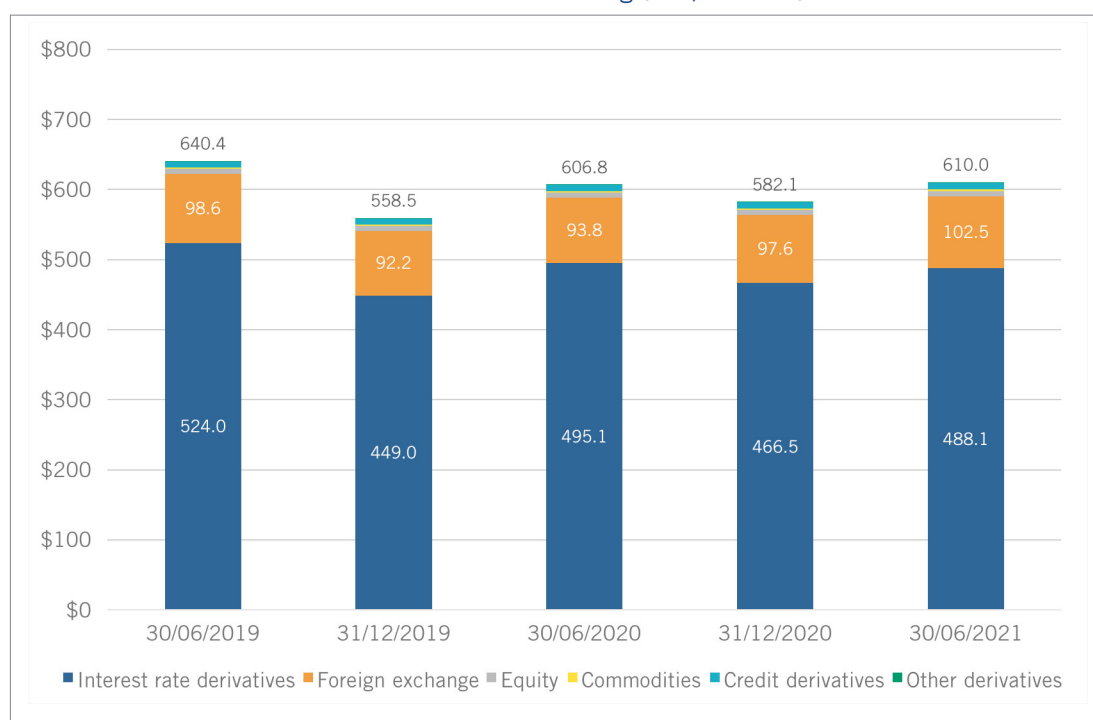
Firms posted \$318.4 billion of initial margin (IM) for cleared IRD and single-name and index credit default swaps (CDS) at all major central counterparties (CCPs) at mid-year 2021.

KEY TRENDS

OTC derivatives notional outstanding was \$610.0 trillion at the end of June 2021, 0.5% higher compared to mid-year 2020 and 4.8% greater than year-end 2020^{1,2} (see Chart 1).

IRD decreased by 1.4% to \$488.1 trillion at mid-year 2021 compared to \$495.1 trillion at mid-year 2020, while FX derivatives grew by 9.2% to \$102.5 trillion over the same period. Credit, equity and commodity derivatives totaled \$9.1 trillion, \$7.5 trillion and \$2.5 trillion, respectively, at mid-year 2021.

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



Source: BIS OTC Derivatives Statistics

The gross market value of OTC derivatives totaled \$12.6 trillion at the end of June 2021, 18.5% lower compared to mid-year 2020 and 20.1% less than year-end 2020³ (see Chart 2). Gross market value equaled 2.1% of notional outstanding at mid-year 2021 compared to 2.6% at mid-year 2020.

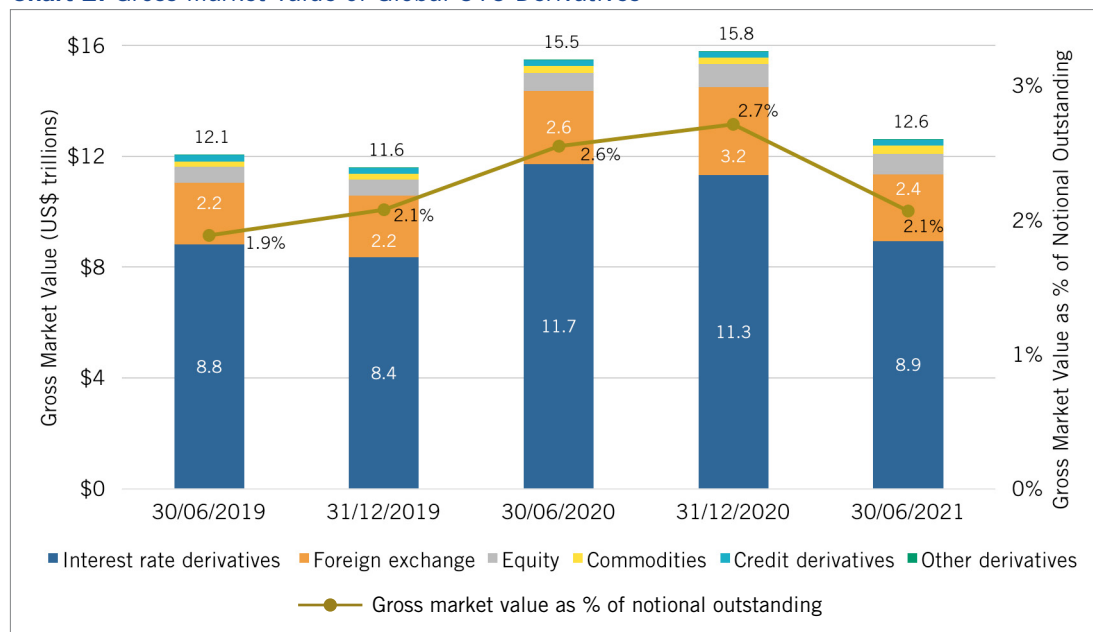
The gross market value of IRD decreased by 23.7% to \$8.9 trillion at mid-year 2021 versus \$11.7 trillion at mid-year 2020, while the gross market value of FX derivatives fell by 8.2% to \$2.4 trillion from \$2.6 trillion over the same period. This decline followed a significant increase in gross market value in 2020 amid pandemic-related market uncertainty⁴.

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

² This change reflects a seasonal pattern evident in the data since 2016. Notional amounts outstanding tends to be higher in the first half of the year compared to year-end values

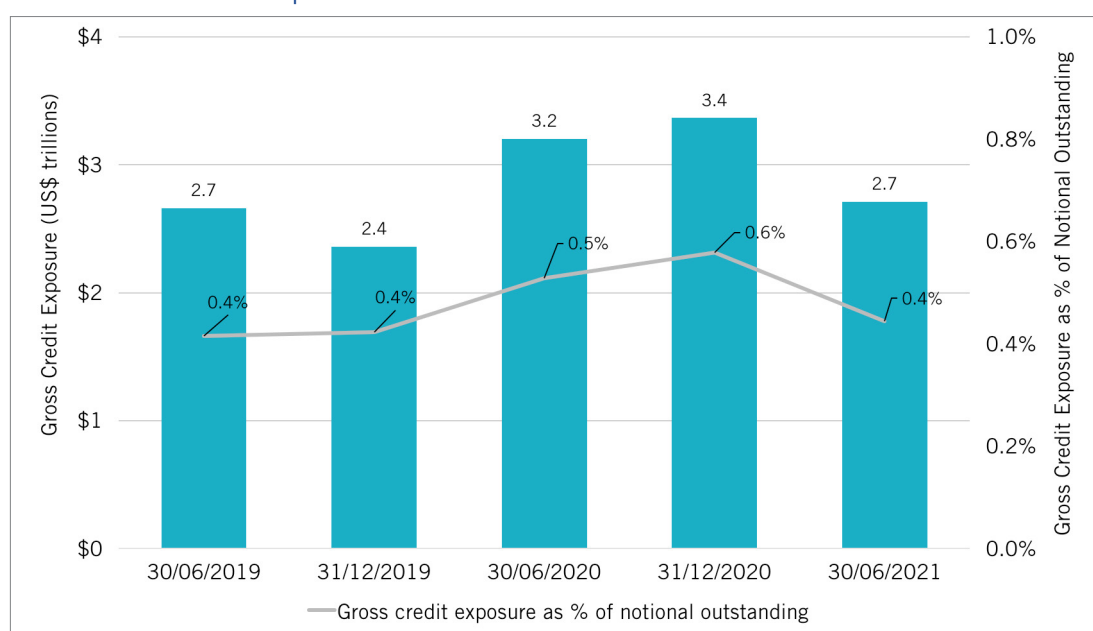
³ Gross market value is the sum of the absolute values of all outstanding derivatives contracts with either positive or negative replacement values evaluated at market prices prevailing on the reporting date. See BIS Glossary

⁴ BIS Statistical Release: OTC Derivatives at End-June 2021 www.bis.org/publ/otc_hy2111.pdf

Chart 2: Gross Market Value of Global OTC Derivatives

Source: BIS OTC Derivatives Statistics

Gross credit exposure of OTC derivatives, which measures counterparty credit risk, decreased by 15.3% compared to mid-year 2020 and by 19.4% versus year-end 2020 (see Chart 3). It totaled \$2.7 trillion and accounted for 0.4% of notional outstanding at mid-year 2021⁵.

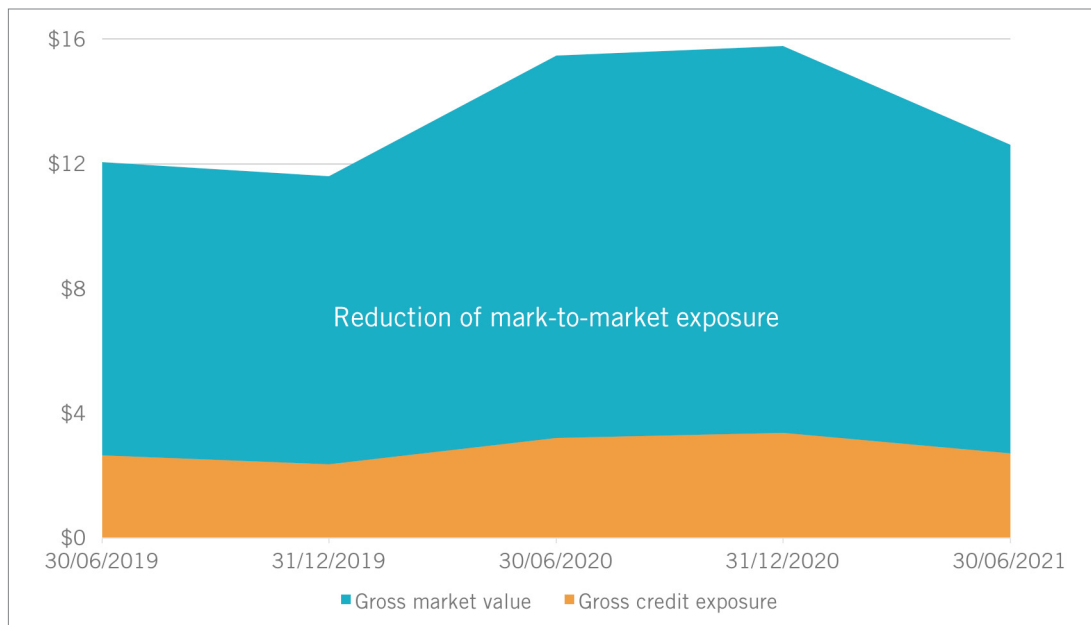
Chart 3: Gross Credit Exposure of Global OTC Derivatives

Source: BIS OTC Derivatives Statistics

Market participants reduced their mark-to-market exposure by 78.5% at mid-year 2021 as a result of close-out netting (see Chart 4). Credit exposure is further reduced by the collateral market participants post for cleared and non-cleared derivatives transactions.

⁵ Gross credit exposure adjusts gross market value for legally enforceable netting agreements, but not for collateral. See [BIS Glossary](#)

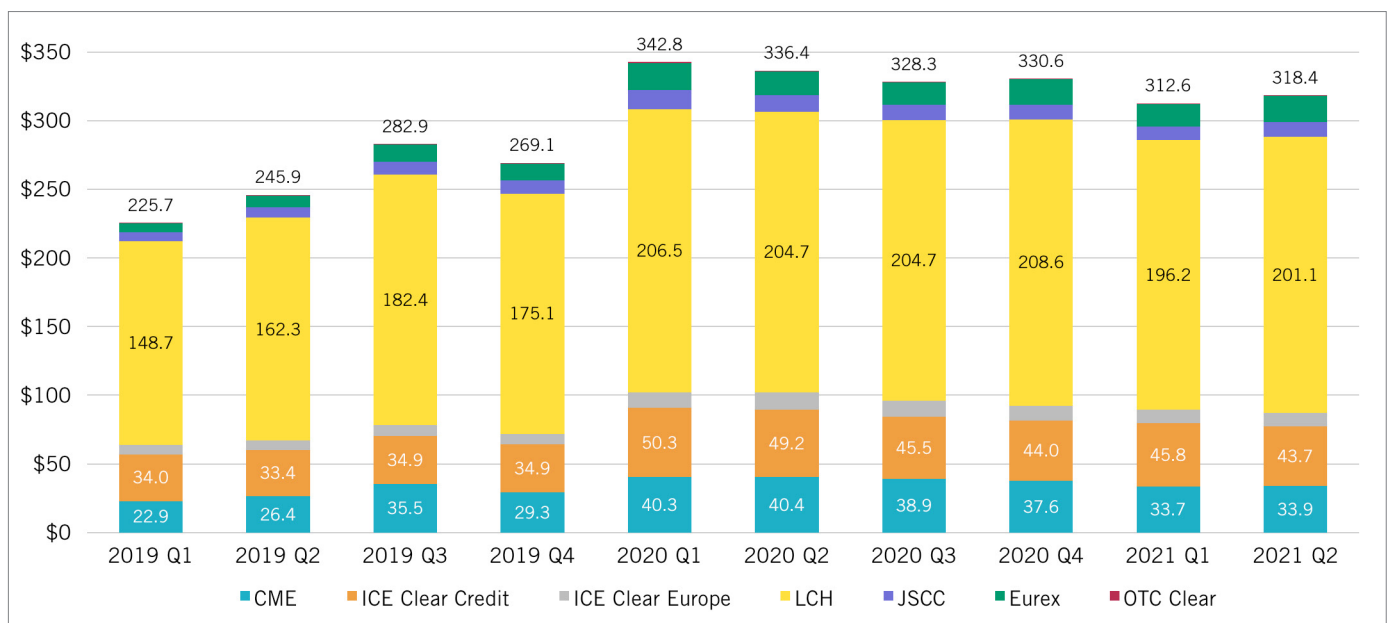
Chart 4: Reduction of Mark-to-market Exposure (US\$ trillions)



Source: BIS OTC Derivatives Statistics

Firms posted \$318.4 billion of IM for cleared IRD and single-name and index CDS at all major CCPs in the second quarter of 2021^{6,7}. This represents a decrease of 5.3% compared to \$336.4 billion in the second quarter of 2020 (see Chart 5).

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



Source: CCP disclosure

⁶ All numbers are converted to US dollars based on the exchange rates at the end of each quarter: <https://www.x-rates.com/historical>

⁷ LCH includes LCH Ltd and LCH SA

Additionally, the 20 largest market participants (so-called phase-one firms) collected \$207.3 billion of IM for their non-cleared derivatives transactions at year-end 2020^{8,9} (see Table 1).

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

	2020	2019	2018	2017	2020 vs. 2019	2019 vs. 2018	2018 vs. 2017
Regulatory IM Received	129.2	105.2	83.8	73.7	22.8%	25.5%	13.7%
IA Received	78.1	68.0	74.1	56.9	14.8%	-8.2%	30.2%
Total IM Received	207.3	173.2	157.9	130.6	19.7%	9.7%	20.9%
Regulatory IM Posted	130.2	105.6	83.2	75.2	23.3%	26.9%	10.6%
IA Posted	9.4	9.5	10.1	6.4	-0.9%	-6.7%	57.5%
Total IM Posted	139.5	115.0	93.3	81.7	21.3%	23.2%	14.3%

Source: ISDA Margin Survey

⁸ ISDA Margin Survey Year-End 2020 <https://www.isda.org/a/fgGTE/ISDA-Margin-Survey-Year-End-2020.pdf>

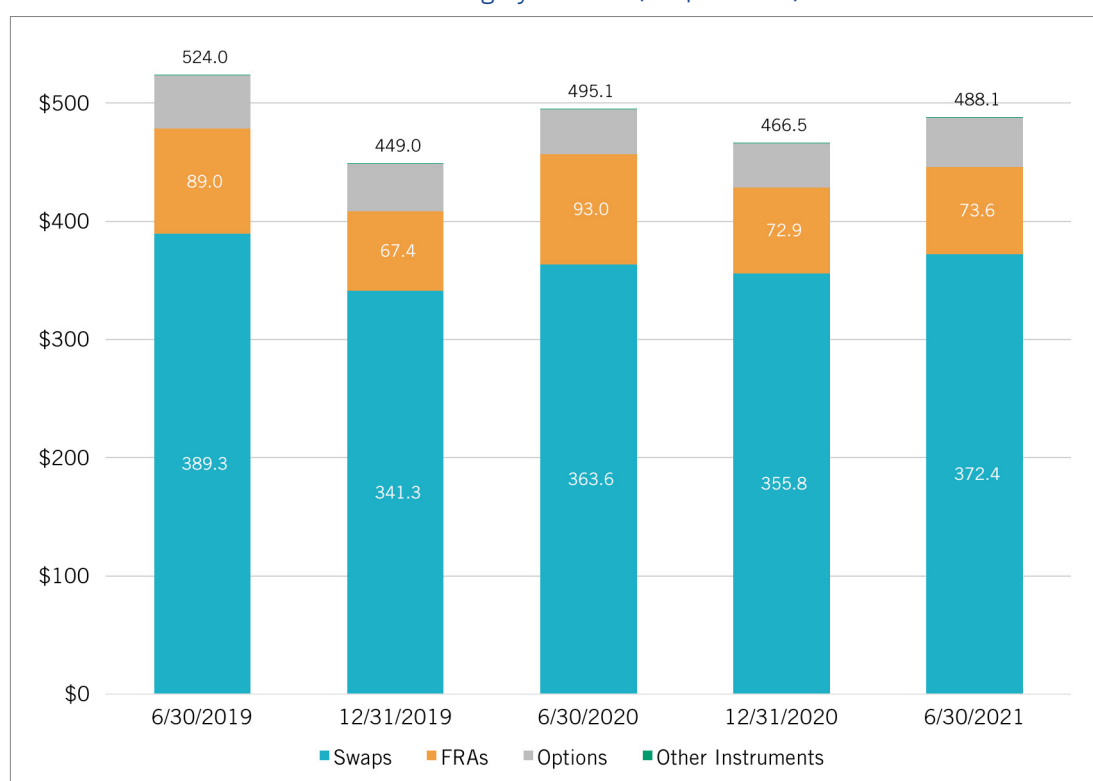
⁹ This data is available only for year-end 2020

INTEREST RATE DERIVATIVES

IRD notional outstanding totaled \$488.1 trillion and accounted for 80.0% of total notional outstanding at mid-year 2021. IRD notional outstanding fell by 1.4% versus mid-year 2020 and increased by 4.6% compared to year-end 2020 (see Chart 1).

Interest rate swaps notional outstanding totaled \$372.4 trillion and accounted for 76.3% of total IRD notional outstanding at the end of June 2021. Forward rate agreements (FRAs) and options notional outstanding equaled \$73.6 trillion and \$41.8 trillion, respectively (see Chart 6).

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

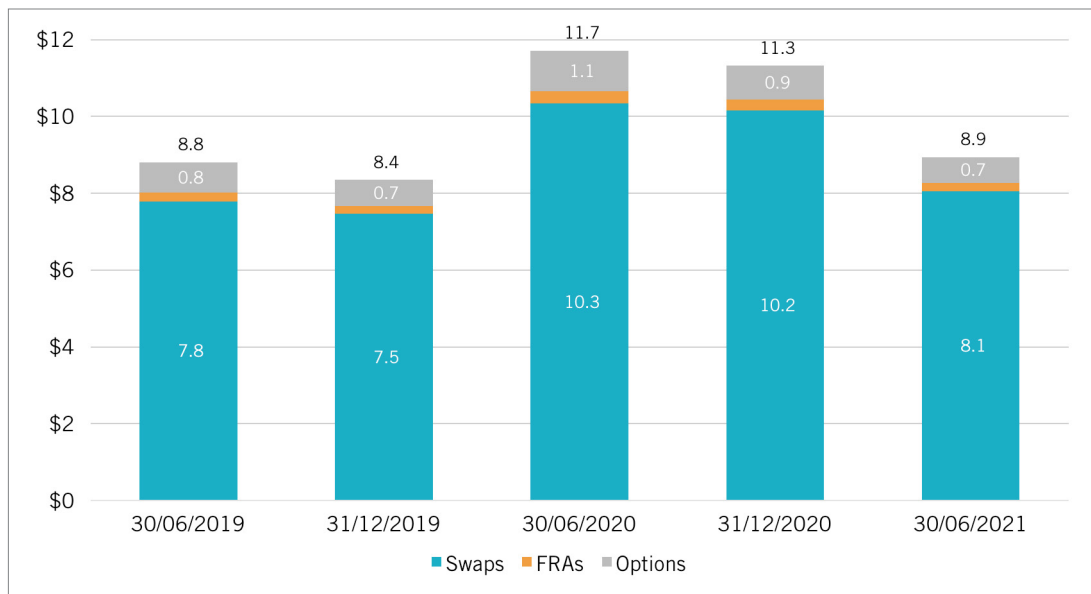


Source: BIS OTC Derivatives Statistics

The gross market value of IRD declined by 23.7% to \$8.9 trillion at mid-year 2021 compared to \$11.7 trillion at mid-year 2020 (see Chart 7).

Swaps gross market value decreased to \$8.1 trillion at mid-year 2021, down by 22.1% compared to \$10.3 trillion at mid-year 2020. FRAs and options gross market value fell by 32.5% and 36.6%, respectively, over the same period.

Chart 7: Gross Market Value of Global IRD by Product (US\$ trillions)



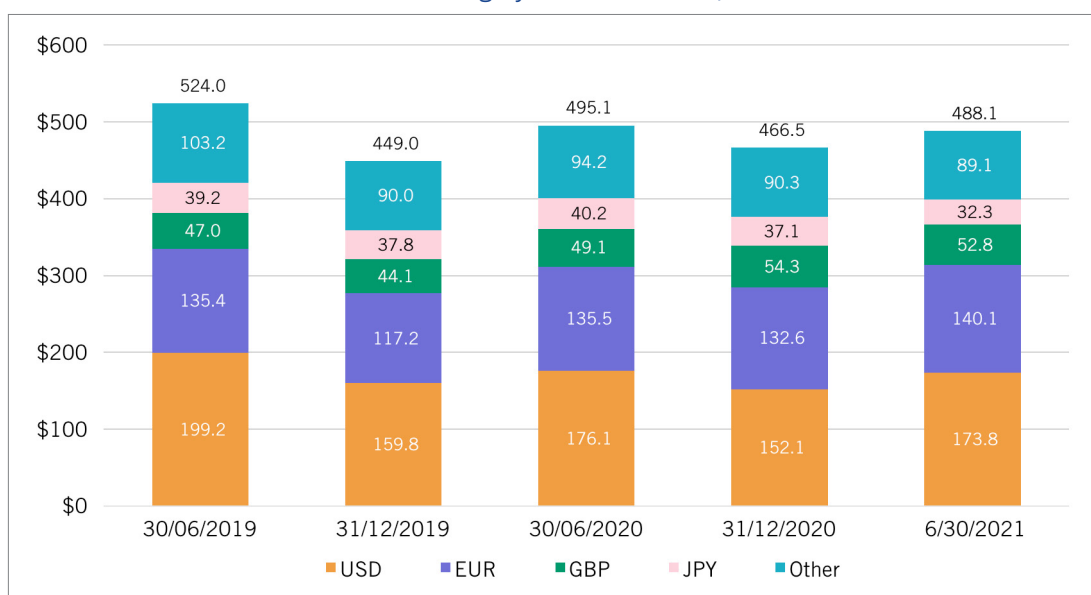
Source: BIS OTC Derivatives Statistics

US dollar-denominated IRD notional outstanding totaled \$173.8 trillion at mid-year 2021, a decrease of 1.3% compared to mid-year 2020 and an increase of 14.2% versus year-end 2020 (see Chart 8). US dollar trades accounted for 35.6% of total IRD notional outstanding at the end of June 2021.

Euro-denominated IRD notional outstanding equaled \$140.1 trillion at mid-year 2021, up by 3.4% from mid-year 2020 and by 5.7% compared to year-end 2020. Euro-denominated transactions comprised 28.7% of total IRD notional outstanding at mid-year 2021.

Sterling-denominated IRD notional outstanding was \$52.8 trillion at mid-year 2021, up by 7.6% compared to end-June 2020 and down by 2.7% compared to year-end 2020. Sterling accounted for 10.8% of total IRD notional outstanding at mid-year 2021.

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



Source: BIS OTC Derivatives Statistics

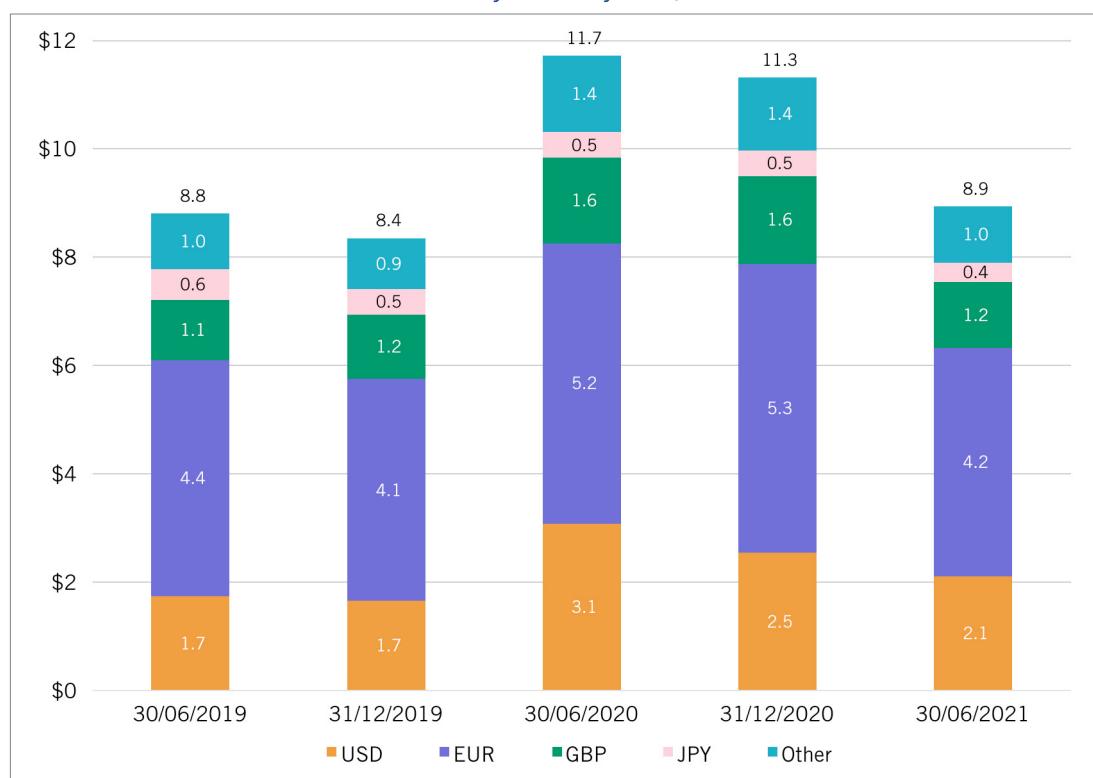
The gross market value of global IRD totaled \$8.9 trillion and accounted for 70.9% of total gross market value at mid-year 2021. IRD gross market value decreased by 23.7% versus mid-year 2020 and by 21.0% compared to year-end 2020.

US dollar-denominated IRD gross market value totaled \$2.1 trillion at the end of June 2021, down by 31.5% compared to mid-year 2020 and by 16.8% compared to year-end 2020 (see Chart 9). US dollar accounted for 23.7% of total IRD gross market value at mid-year 2021 compared to 26.3% at mid-year 2020.

Euro-denominated IRD gross market value totaled \$4.2 trillion at mid-year 2021, a decrease of 18.7% versus mid-year 2020 and 21.2% compared to year-end 2020. Euro-denominated transactions comprised 47.0% of total IRD gross market value at mid-year 2021 compared to 44.1% mid-year 2020.

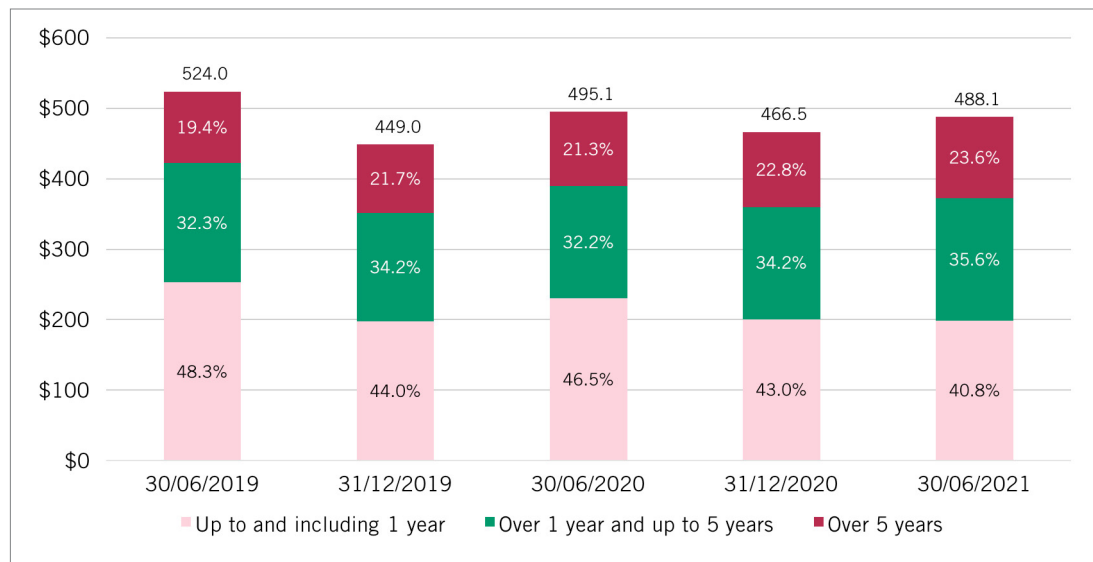
Sterling-denominated IRD gross market value equaled \$1.2 trillion at the end of June 2021, down by 22.5% compared to mid-year 2020 and by 24.6% compared to year-end 2020. Sterling accounted for 13.7% of total IRD gross market value at mid-year 2021.

Chart 9: Global IRD Gross Market Value by Currency (US\$ trillions)



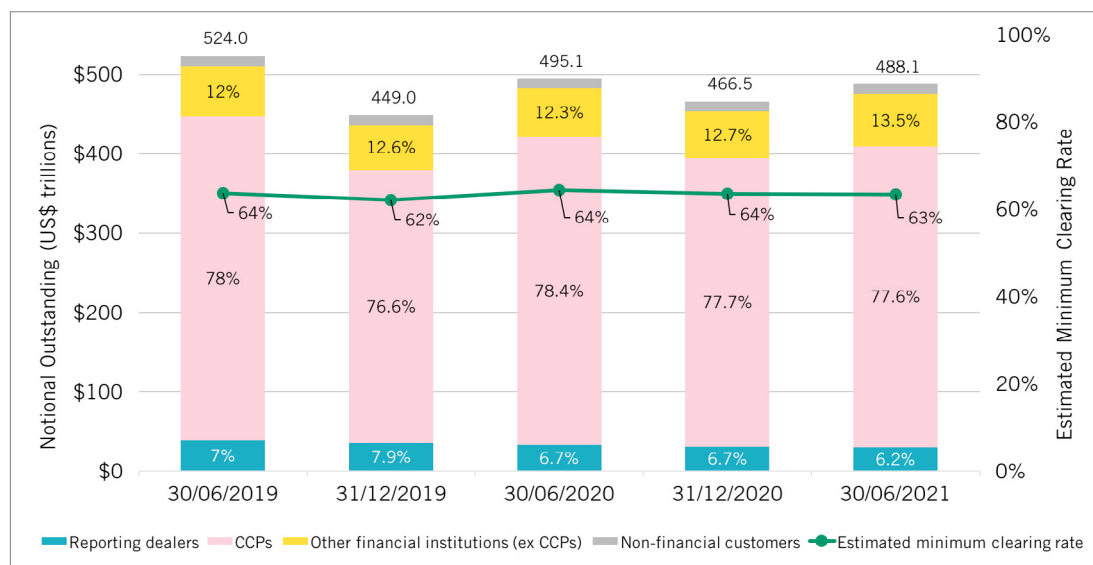
Source: BIS OTC Derivatives Statistics

IRD contracts with a remaining maturity up to and including one year totaled \$198.9 trillion and accounted for 40.8% of total global IRD notional outstanding at mid-year 2021 (see Chart 10). IRD notional outstanding with a remaining maturity over one year and up to five years equaled \$173.6 trillion (35.6% of total IRD notional outstanding) and contracts with a remaining maturity over five years totaled \$115.3 trillion (23.6% of total IRD notional outstanding).

Chart 10: Global IRD Notional Outstanding by Remaining Maturity (US\$ trillions)

Source: BIS OTC Derivatives Statistics

The share of IRD notional with CCPs was 77.6% in the first half of 2021, equating to \$378.9 trillion. The estimated minimum clearing rate for IRD was 63.4% at the end of June 2021¹⁰ (see Chart 11). At mid-year 2020, the share of IRD notional with CCPs was 78.4% and the estimated minimum clearing rate was 64.4%.

Chart 11: Global IRD Notional Outstanding by Counterparties

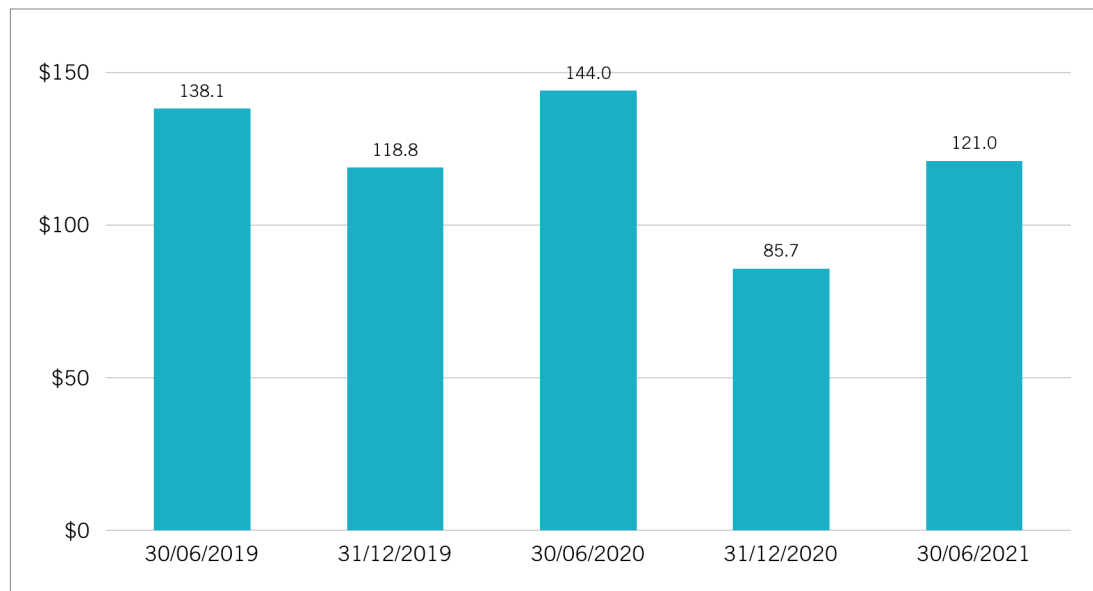
Source: BIS OTC Derivatives Statistics

ISDA SwapsInfo data shows that trading in IRD products reported in the US decreased by 16.0% during the first half of 2021 compared to the first half of 2020 and increased by 41.2% compared to the second half of 2020¹¹. IRD traded notional totaled \$121.0 trillion in the first half of 2021 compared to \$144.0 trillion in the first half of 2020 and \$85.7 trillion in the second half of 2020 (see Chart 12).

¹⁰ 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

¹¹ Based on the data from the Depository Trust and Clearing Corporation (DTCC) and Bloomberg swap data repositories (SDRs). This data covers only transactions required to be disclosed under US regulations. See ISDA SwapsInfo website www.swapsinfo.org/

Chart 12: IRD Traded Notional Reported in the US (US\$ trillions)



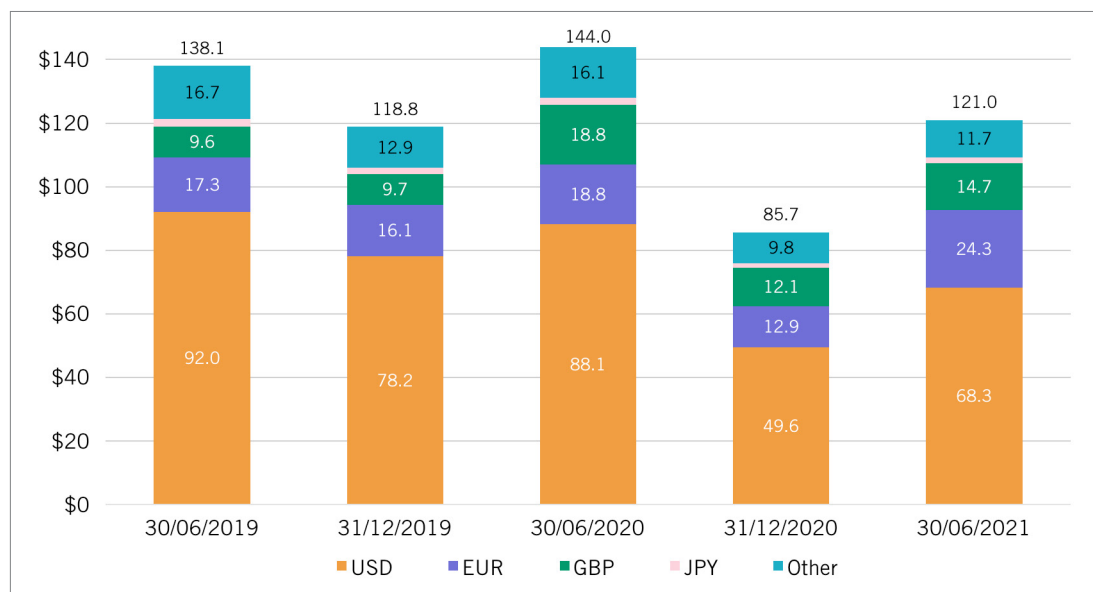
Source: DTCC and Bloomberg SDRs

US dollar-denominated IRD traded notional totaled \$68.3 trillion in the first half of 2021, down by 22.5% compared to the first half of 2020 and up by 37.8% versus the second half of 2020 (see Chart 13). US dollar accounted for 56.5% of total IRD traded notional in the first half of 2021.

Euro-denominated IRD traded notional equaled \$24.3 trillion in the first half of 2021, up by 29.5% compared to the first half of 2020 and by 88.7% versus the second half of 2020. Euro-denominated transactions represented 20.1% of total IRD traded notional in the first half of 2021.

Sterling-denominated IRD traded notional totaled \$14.7 trillion in the first half of 2021, a decrease of 21.7% versus the first half of 2020 and an increase of 21.5% compared to the second half of 2020. Sterling represented 12.1% of total IRD traded notional in the first half of 2021.

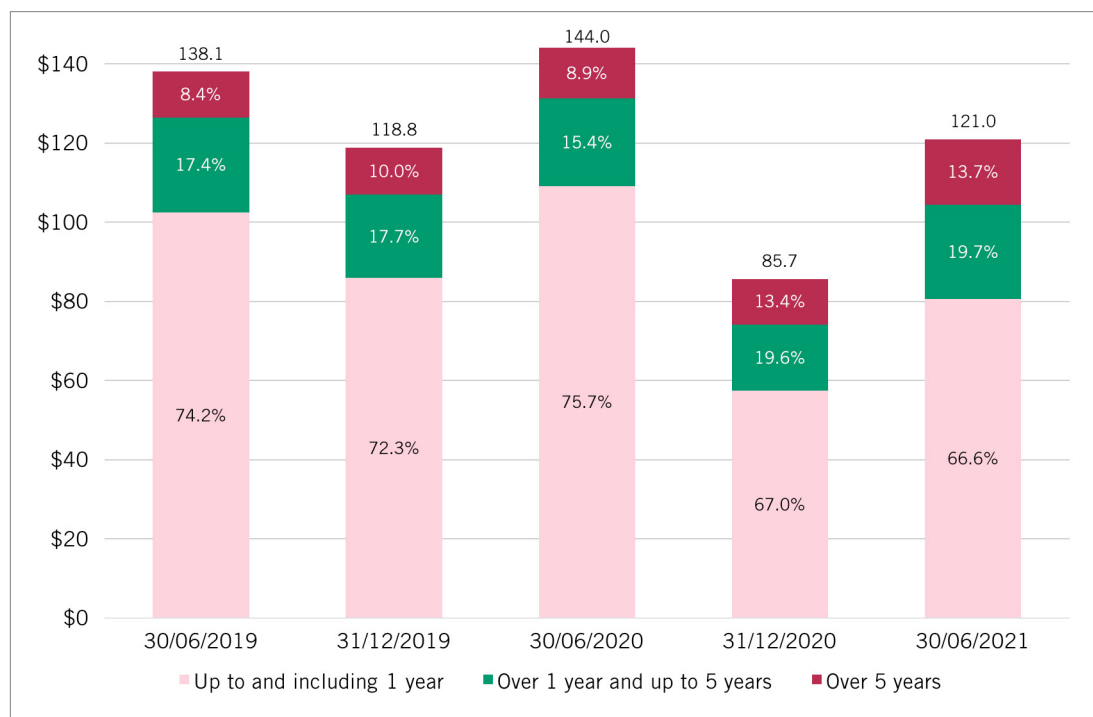
Chart 13: IRD Traded Notional Reported in the US by Currency (US\$ trillions)



Source: DTCC and Bloomberg SDRs

In the first half of 2021, 66.6% of total IRD trading comprised contracts with a tenor up to and including one year¹². Contracts with a tenor over one year and up to five years accounted for 19.7% of total IRD traded notional, while contracts with a tenor over five years totaled 13.7% (see Chart 14).

Chart 14: IRD Traded Notional Reported in the US by Tenor (US\$ trillions)



Source: DTCC and Bloomberg SDRs

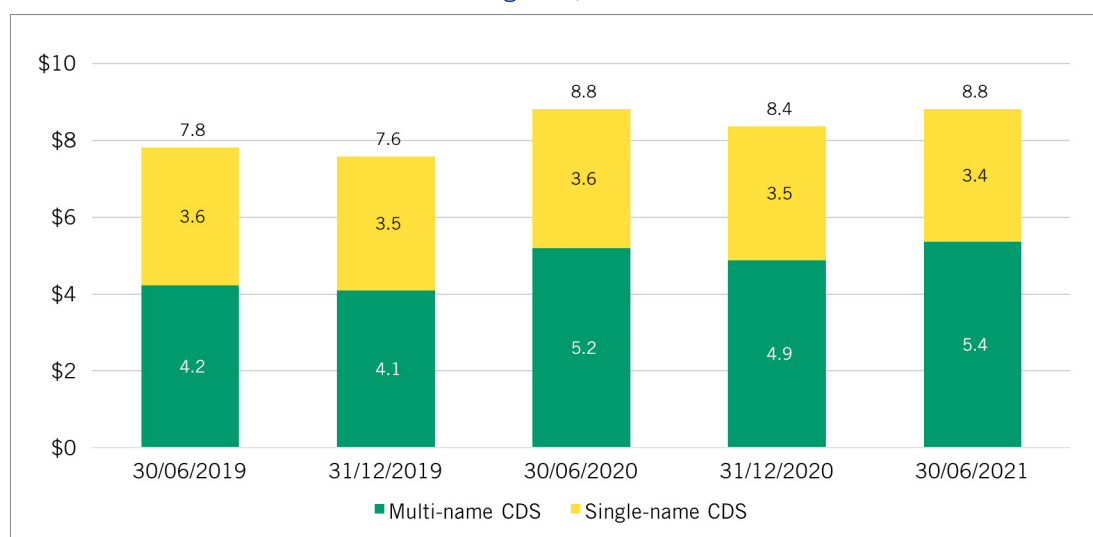
¹² Tenor is calculated as the difference between the effective date and the end date

CREDIT DEFAULT SWAPS

According to the BIS data, CDS notional outstanding (including single name and index CDS) remained almost unchanged at \$8.8 trillion at the end of June 2021 versus mid-year 2020, and was up by 5.4% compared to \$8.4 trillion at year-end 2020 (see Chart 15).

Single-name CDS notional outstanding decreased by 4.8% to \$3.4 trillion at mid-year 2021 compared to \$3.6 trillion at mid-year 2020, while multiple-name CDS notional outstanding increased by 3.4% to \$5.4 trillion at the end of June 2021 compared to \$5.2 trillion at mid-year 2020.

Chart 15: Global CDS Notional Outstanding (US\$ trillions)

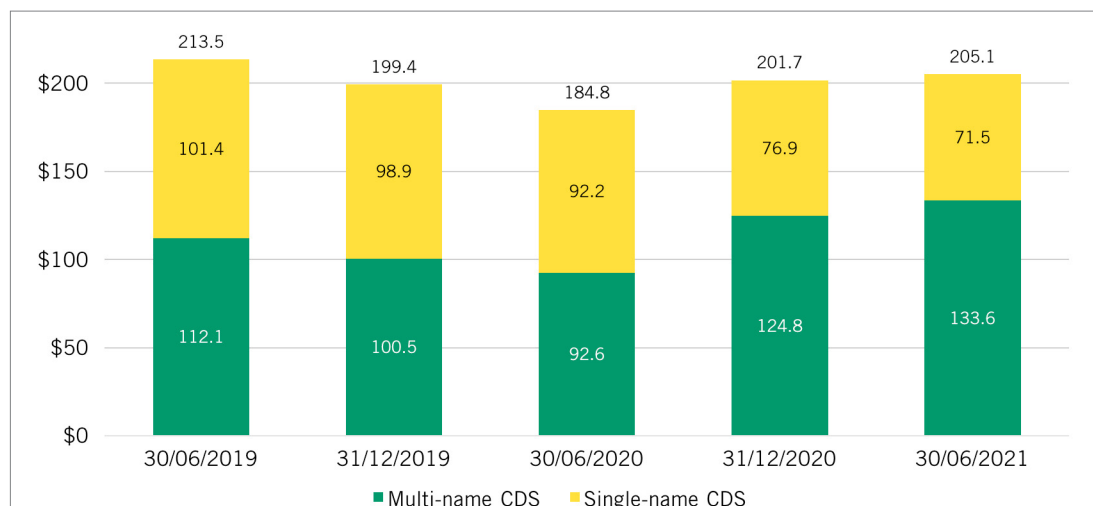


Source: BIS OTC Derivatives Statistics

The gross market value of CDS increased to \$205.1 billion at mid-year 2021, up by 11.0% from \$184.8 billion at mid-year 2020 and by 1.7% from \$201.7 billion at year-end 2020 (see Chart 16).

Single-name CDS gross market value decreased to \$71.5 billion at end-June 2021, down by 22.4% compared to \$92.2 billion at mid-year 2020. Multiple-name CDS notional increased by 44.4% to \$133.6 billion at mid-year 2021 compared to \$92.6 billion at the end of June 2020.

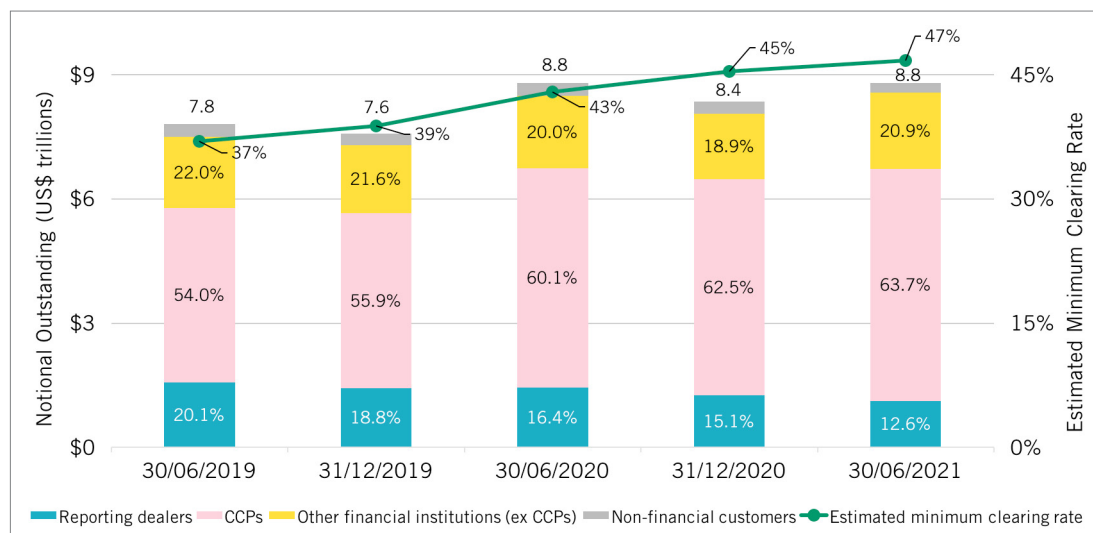
Chart 16: Global CDS Gross Market Value (US\$ billions)



Source: BIS OTC Derivatives Statistics

The share of CDS notional outstanding with CCPs increased to 63.7% in the first half of 2021, totaling \$5.6 trillion (Chart 17). The estimated minimum clearing rate for CDS contracts increased to 46.8%¹³. In comparison, the share of CDS notional with CCPs was 60.1% at mid-year 2020, with an estimated minimum clearing rate for CDS contracts of 43.0%.

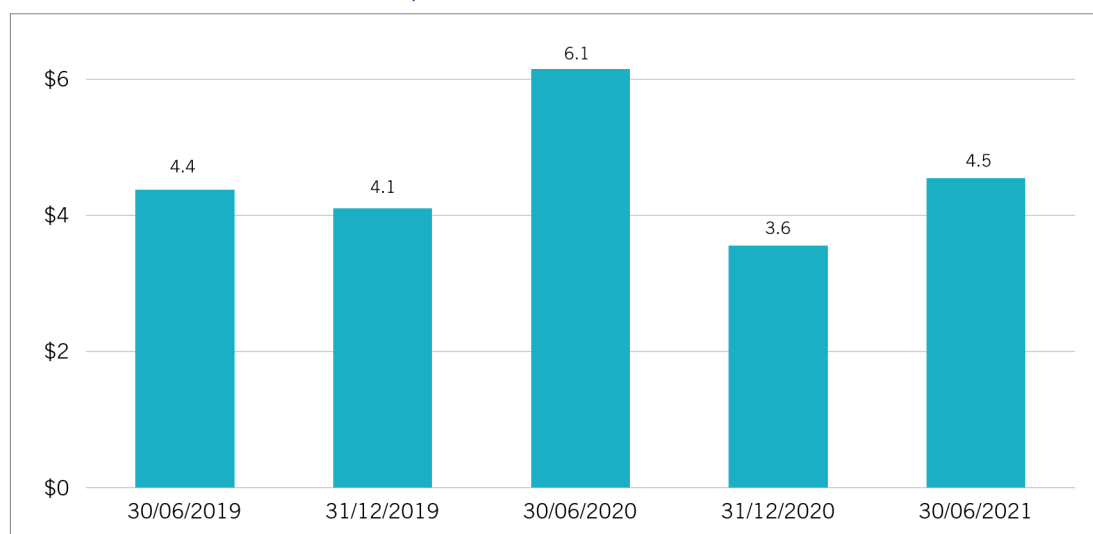
Chart 17: Global CDS Notional Outstanding by Counterparties



Source: BIS OTC Derivatives Statistics

In the US, CDS traded notional decreased by 26.0% during the first half of 2021 compared to the first half of 2020 and grew by 27.9% versus the second half of 2020¹⁴. CDS traded notional totaled \$4.5 trillion in the first half of 2021 compared to \$6.1 trillion in the first half of 2020 and \$3.6 trillion in the second half of 2020 (see Chart 18).

Chart 18: CDS Traded Notional Reported in the US (US\$ trillions)



Source: DTCC and Bloomberg SDRs

¹³ 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

¹⁴ Based on the data from the Depository Trust and Clearing Corporation (DTCC) and Bloomberg SDRs. This data covers only transactions required to be disclosed under US regulations. Credit derivatives mostly comprise CDS indices, but also include CDS index tranches, credit swaptions, exotic products, total return swaps and insignificant amount of single-name CDS



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www.isda.org/a/OPUgE/ISDA-Clarus-RFR-Adoption-Indicator-10-2021.pdf

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www.isda.org/a/GDUgE/Interest-Rate-Derivatives-Trading-Activity-Reported-in-EU-UK-and-US-Markets-August-2021.pdf

- ***SwapsInfo Third Quarter of 2021 and Year-to-September 30, 2021 Review***

www.isda.org/a/BdSgE/SwapsInfo-Third-Quarter-of-2021-and-Year-to-September-30-2021-Review-Full-Report.pdf

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