

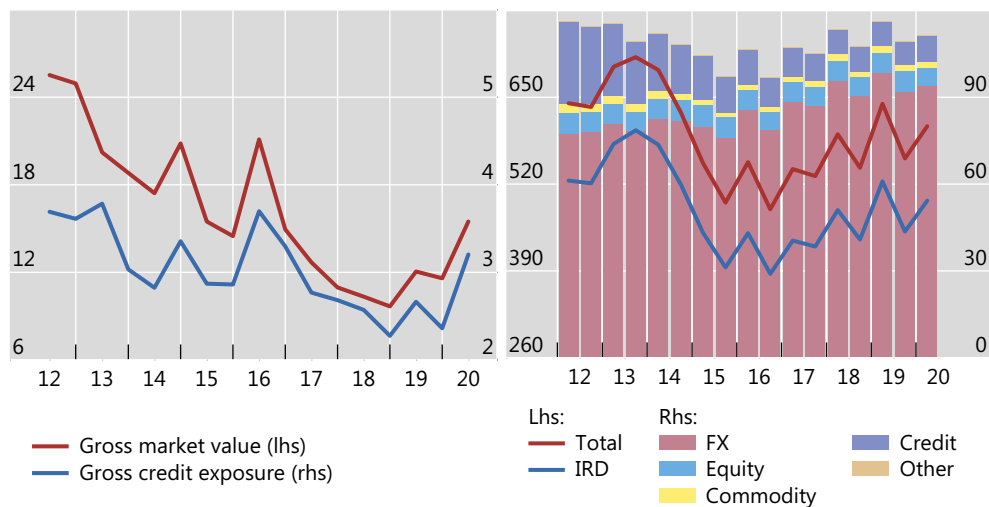


## Statistical release: OTC derivatives statistics at end-June 2020

- The gross market value of over-the-counter (OTC) derivatives, which provides a measure of amounts at risk, rose from \$11.6 trillion to **\$15.5 trillion** during the first half of 2020, led by increases in interest rate derivatives.
- Similarly, gross credit exposure, which adjusts market values for legally enforceable netting agreements, jumped from \$2.4 trillion at end-2019 to **\$3.2 trillion** at end-June 2020, the largest rise since 2009.
- Central clearing rates of credit default swaps rose from 56% at end-2019 to 60% at end-June 2020, the largest increase since H1 2017.

### Gross market value of OTC derivatives surges in H1 2020

Gross market value & gross credit exposure    Notional amount outstanding, by asset class



Graph 1: Outstanding OTC derivatives, USD trillions ([interactive graph](#)).

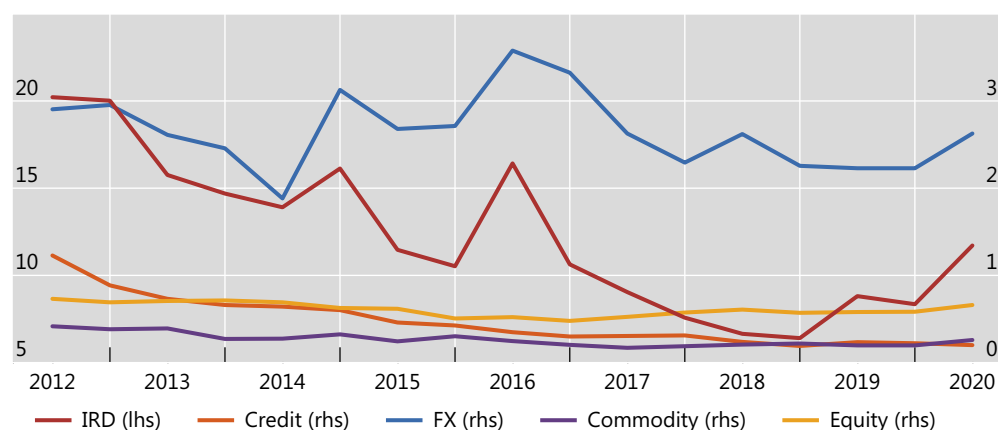
Source: BIS OTC derivatives statistics ([Table D5.1](#) and [D5.2](#)).

The Covid-19-induced market turmoil and strong policy responses drove developments in derivatives markets in the first half of 2020. The [gross market value](#) of derivative contracts – summing positive and negative values – surged from \$11.6 trillion at end-2019 to **\$15.5 trillion** at end-June 2020, a 33% increase within six months (Graph 1, left-hand panel). Similarly, [gross credit exposure](#) – which adjusts gross market values for legally enforceable bilateral netting agreements (but not for collateral) – also saw a large increase in the first half of 2020, from \$2.4 trillion at end-2019 to **\$3.2 trillion** at end-June 2020. This was the largest rise since 2009.

These sharp movements stand in contrast to the relative stability of [notional amounts](#) of derivative contracts in the first half of 2020, broadly in line with the trend observed in recent years. Notional amounts of all OTC derivatives combined

increased to \$607 trillion at end-June 2020, only 9% above end-December 2019 (Graph 1, right-hand panel). The increase primarily reflected interest rate derivatives, whose notional amounts increased from \$449 trillion at end-2019 to [\\$495 trillion](#) at end-June 2020, mainly attributable to a seasonal pattern.<sup>1</sup> The notional amounts of other contracts remained relatively flat over the same period.

### Interest rate derivatives drive rise in gross market value



Graph 2: Gross market value of OTC derivatives, USD trillions ([interactive graph](#)).

Source: BIS OTC derivatives statistics ([Table D5.1](#) and [D5.2](#)).

Interest rate derivatives saw the largest increase in gross market value (40%), led by USD-denominated contracts (Graph 2, red line). In particular, USD-denominated contracts jumped by 86% to \$3 trillion (Graph 3, red line), the largest increase since the Great Financial Crisis (GFC) of 2007–09. For their part, the gross market value of EUR-denominated contracts also rose by 26%, standing at \$5 trillion at end-June 2020 (Graph 3, blue line).

Following the Covid-induced market turmoil in March 2020, many central banks cut rates and took other measures to support economic activity.<sup>2</sup> The outlook for USD-denominated interest rate contracts, in particular, changed more substantially than that for contracts in other currencies.<sup>3</sup> Unanticipated changes generated the gap between market interest rates on the reporting date and rates prevailing at contract inception, thus boosting the reported gross market value.<sup>4</sup>

<sup>1</sup> The increase over the first half of 2020 (10%) was small relative to the average increase during the first half of the past four years (15%).

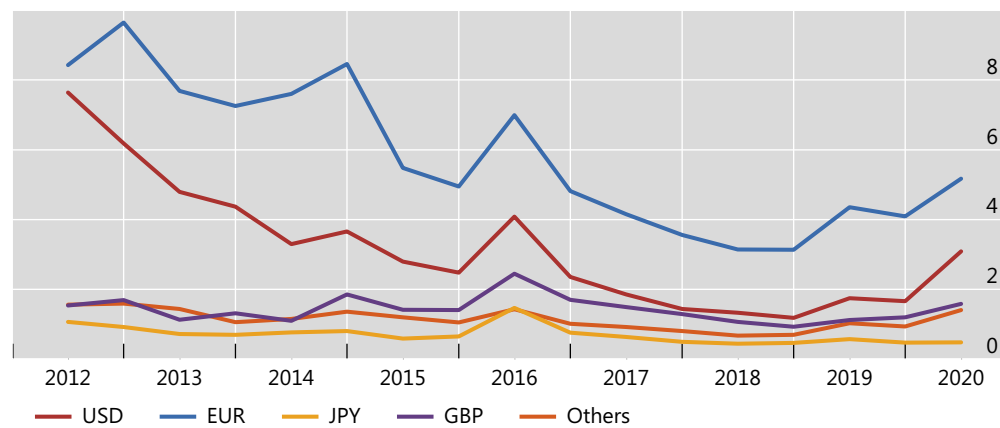
<sup>2</sup> [Schimpf, Shin and Sushko \(2020\)](#) analyse the March turmoil in the US Treasury market. For more information on the monetary policy support from central banks, see [BIS Annual Economic Report 2020 \(Chapter II\)](#).

<sup>3</sup> As an emergency response to the Covid-19 crisis, the US Federal Reserve cut the benchmark interest rate by a full percentage point on 15 March and dollar swap lines were reintroduced.

<sup>4</sup> This is consistent with the BIS international banking statistics (IBS) which recorded significant increases in the market value of banks' derivatives positions as the pandemic escalated. For more details, see [the March IBS statistical release](#).

The gross market value of other types of derivatives also rose in the first half of 2020, reflecting large price movements and elevated market volatility.<sup>5</sup> The gross market value of commodity contracts increased by 32% to stand at \$260 billion at end-June 2020 (Graph 2, purple line). At 18% and 13% respectively, the increase for both OTC foreign exchange contracts and equity-linked contracts was somewhat smaller but still significant, pushing market values to \$2.6 trillion and \$0.7 trillion respectively at end-June 2020 (blue and yellow lines). By contrast, the market value of credit derivatives decreased by 10% to \$199 billion at end-June 2020 (orange line).

### USD interest rate contracts see the largest increase in market value

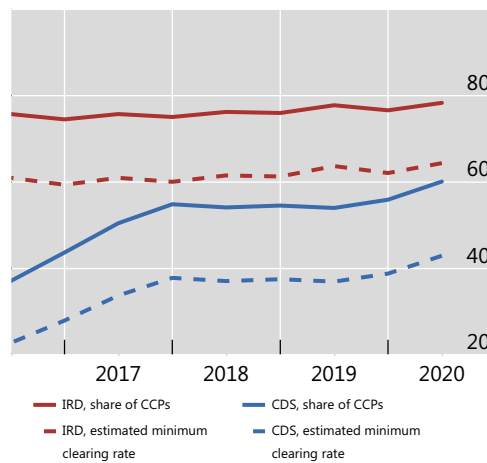


Graph 3: Gross market value of OTC interest rate derivatives, USD trillions ([interactive graph](#)). "Other" refers to contracts denominated in currencies other than USD, EUR, JPY and GBP. Source: BIS OTC derivatives statistics ([Table D7](#)).

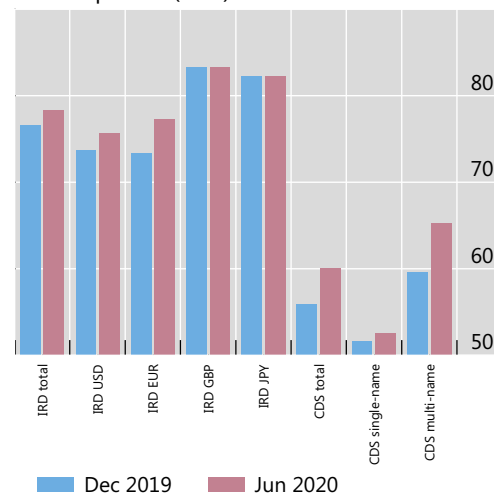
<sup>5</sup> The VIX spiked to reach 66 points in March as Covid-19 spread, its highest level since the GFC. It fell back to 30 points at end-June 2020, still twice its level at end-2019. The Chicago Board Options Exchange crude oil volatility index shared a similar pattern, with the end-June value (64 points) twice that of end-2019 (25 points).

## Central clearing rates trend upwards, especially for CDS

Central clearing rates, by product type



Share of contracts with central counterparties (CCP)



Graph 4: Percentage of notional amounts outstanding of OTC interest rate derivatives (IRD) and credit default swaps (CDS) cleared by central counterparties (CCP). Estimated minimum clearing rate is the proportion of trades that are cleared, calculated as  $(CCP / 2) / (1 - (CCP / 2))$ , where CCP represents the share of notional amounts outstanding that dealers report against CCPs. The CCP share is halved to adjust for the potential double-counting of inter-dealer trades novated to CCPs.

Source: BIS OTC derivatives statistics ([Table D5.1 and D10.1](#)).

Having plateaued in recent years, central clearing rates, particularly for credit default swaps (CDS), picked up again in H1 2020. The share of CDS contracts (notional amount outstanding) cleared by central counterparties (CCPs) increased from 56% at end-2019 to 60% at end-June 2020 (Graph 4, left-hand panel, blue solid line; and Annex Graph A8). This was the largest increase since H1 2017, when clearing rates had trended upwards following the 2009 G20 commitment to clear standardised OTC derivative contracts.

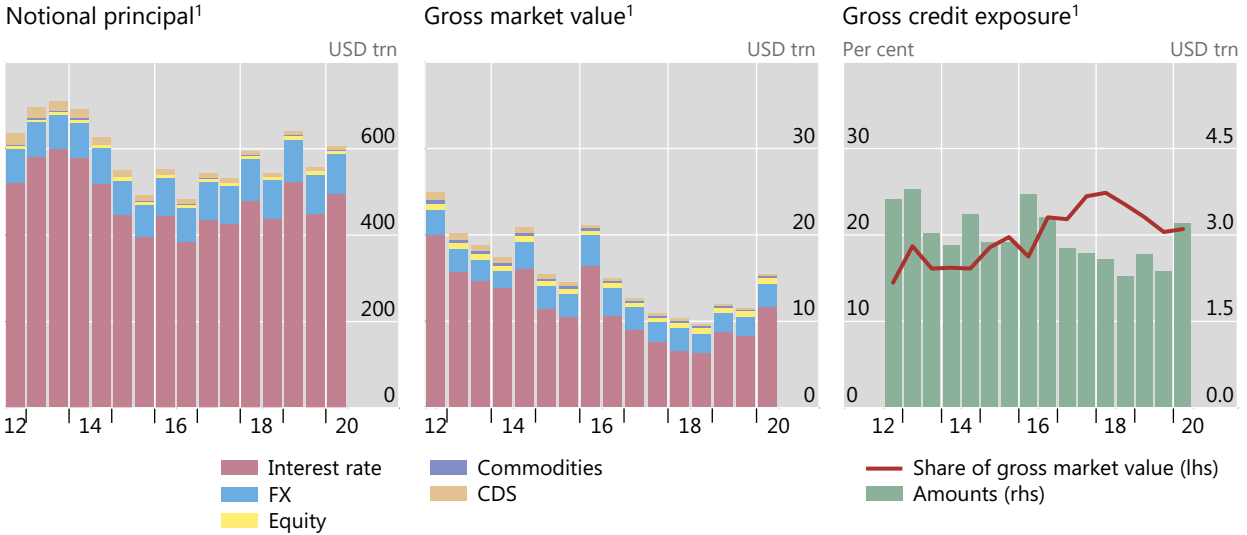
The recent increase in central clearing of CDS mainly stemmed from multi-name CDS. The share cleared by CCPs increased from 60% to 65% of total notional outstanding in the first half of 2020 (Graph 4, right-hand panel). The clearing rate for single-name CDS rose in parallel, but more modestly, from 52% to 53%.

The central clearing rate for interest rate derivatives remained nearly constant, up from 77% to 78% in H1 2020 (red solid line). Most of the increase was for EUR- and USD-denominated contracts. More than 77% and 75% of EUR- and USD-denominated interest rate contracts were cleared by CCPs at end-June 2020, up from 73% and 74% at end-2019, respectively.

## Annex

### Global OTC derivatives markets

Graph A1



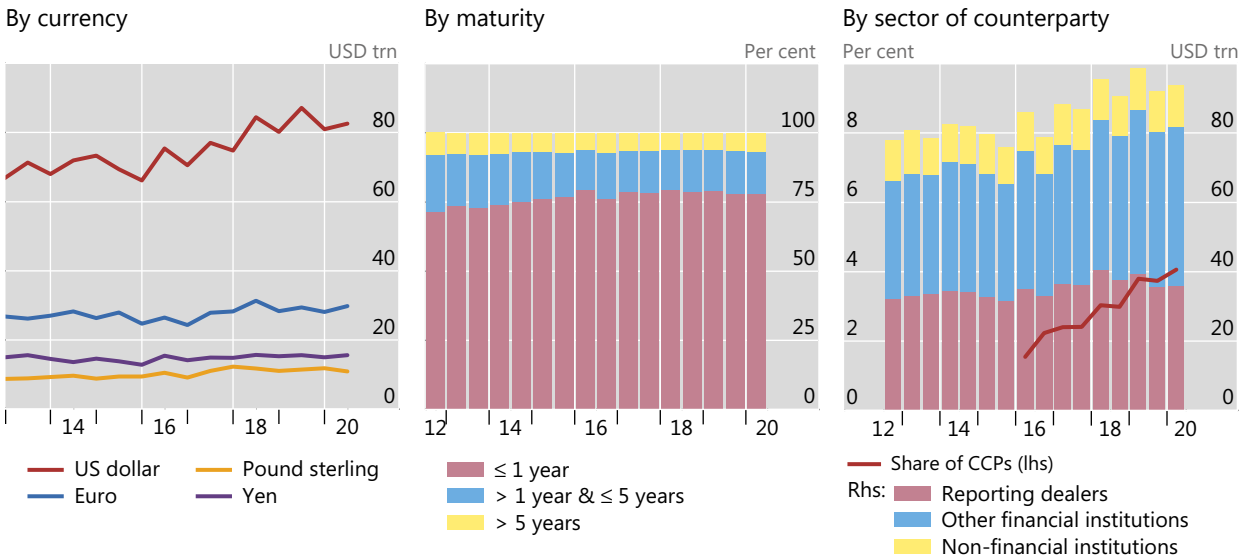
<sup>1</sup> At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS OTC derivatives statistics (available at [www.bis.org/statistics/derstats.htm](http://www.bis.org/statistics/derstats.htm)).

### OTC foreign exchange derivatives

#### Notional principal<sup>1</sup>

Graph A2



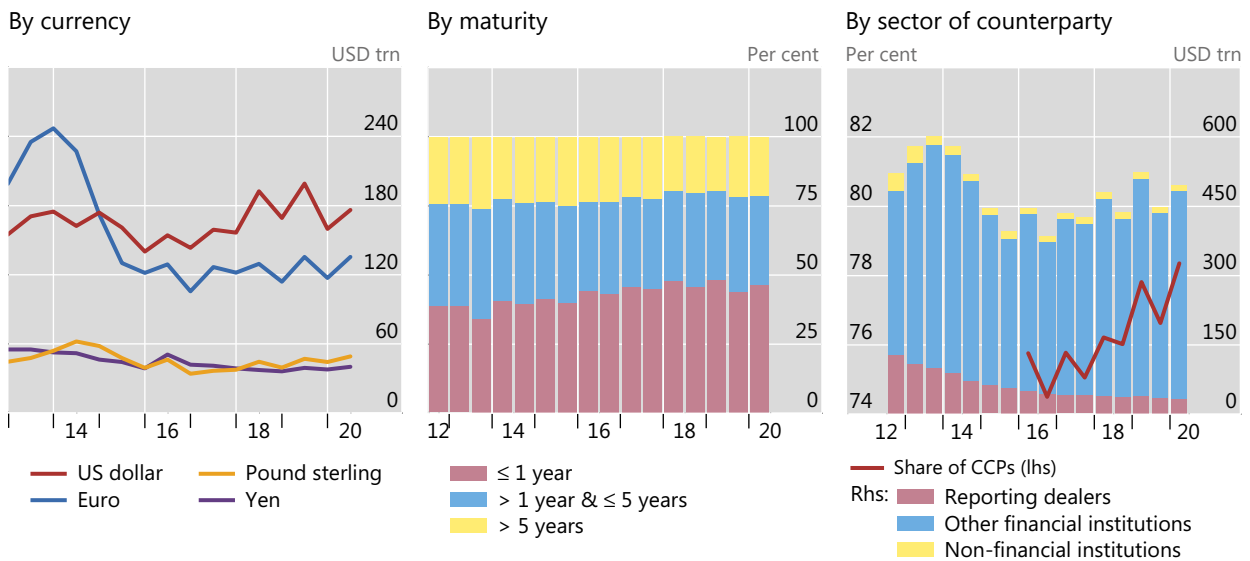
<sup>1</sup> At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS OTC derivatives statistics (available at [www.bis.org/statistics/derstats.htm](http://www.bis.org/statistics/derstats.htm)).

## OTC interest rate derivatives

Notional principal<sup>1</sup>

Graph A3



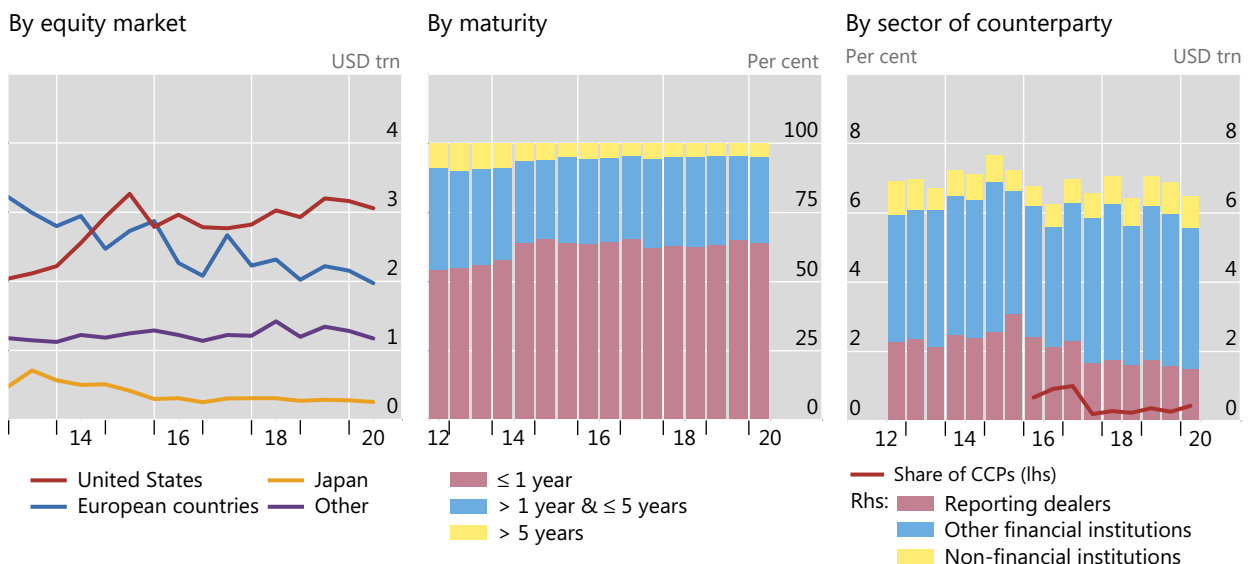
<sup>1</sup> At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS OTC derivatives statistics (available at [www.bis.org/statistics/derstats.htm](http://www.bis.org/statistics/derstats.htm)).

## OTC equity-linked derivatives

Notional principal<sup>1</sup>

Graph A4

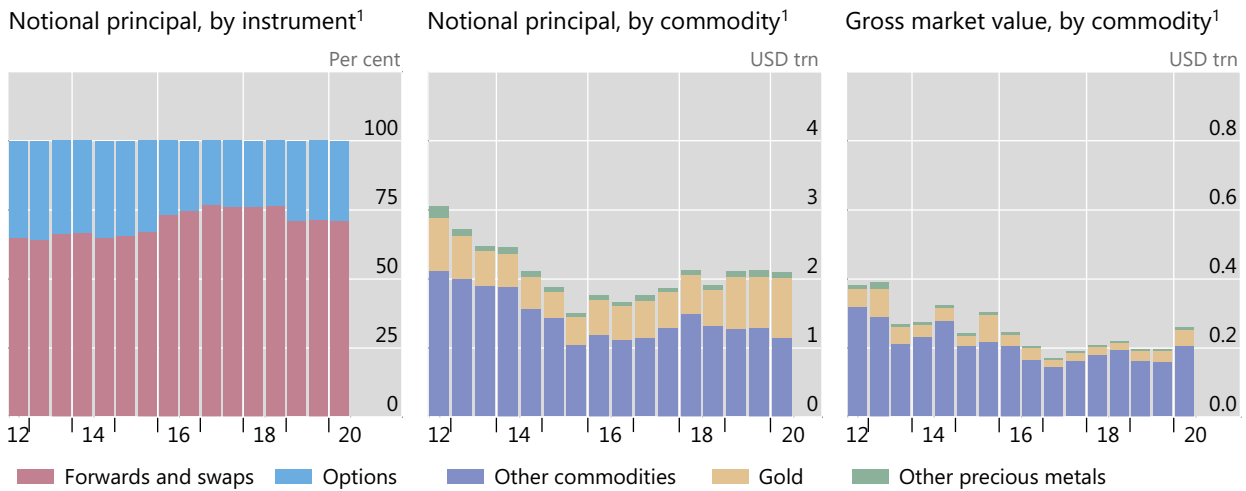


<sup>1</sup> At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS OTC derivatives statistics (available at [www.bis.org/statistics/derstats.htm](http://www.bis.org/statistics/derstats.htm)).

OTC commodity derivatives

Graph A5

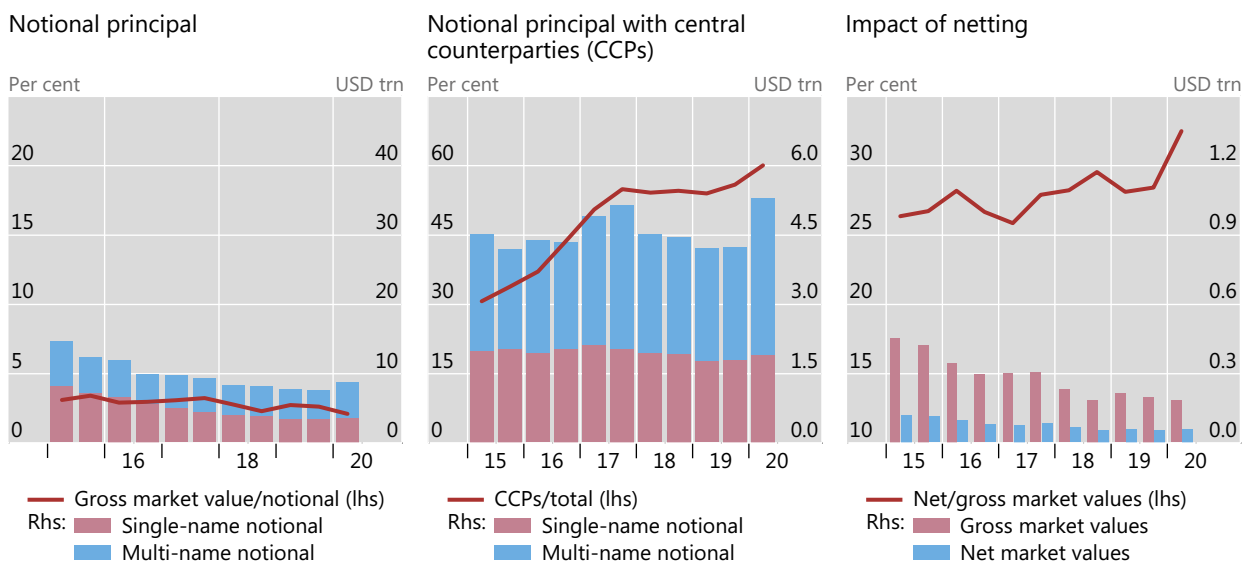


<sup>1</sup> At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS OTC derivatives statistics (available at [www.bis.org/statistics/derstats.htm](http://www.bis.org/statistics/derstats.htm)).

Credit default swaps<sup>1</sup>

Graph A6



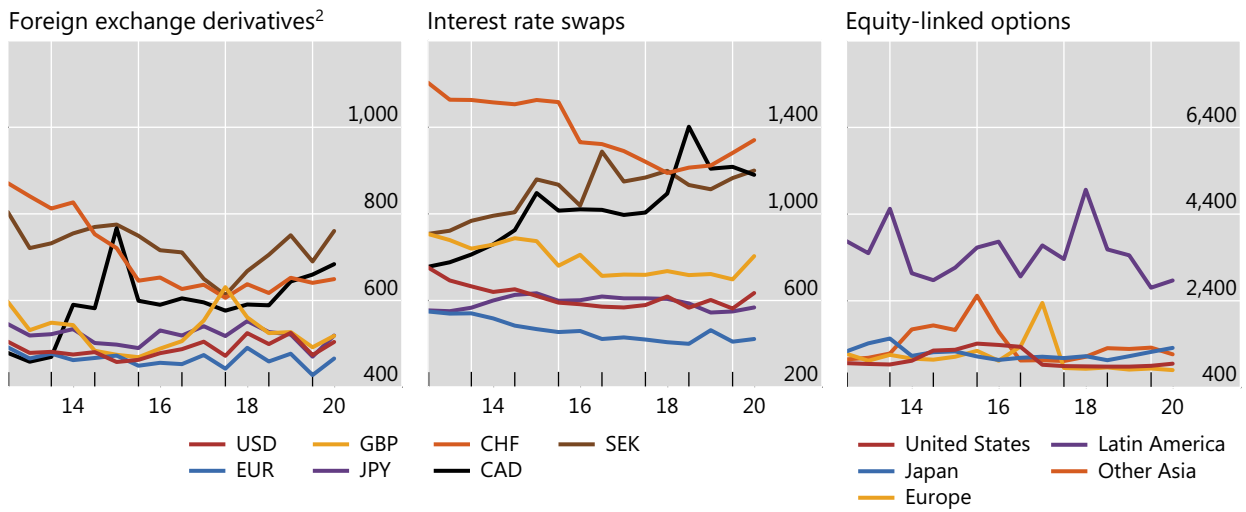
<sup>1</sup> At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS OTC derivatives statistics (available at [www.bis.org/statistics/derstats.htm](http://www.bis.org/statistics/derstats.htm)).

## Concentration in global OTC derivatives markets

Herfindahl index<sup>1</sup>

Graph A7



CAD = Canadian dollar; CHF = Swiss franc; EUR = euro; GBP = pound sterling; JPY = Japanese yen; SEK = Swedish krona; USD = US dollar.

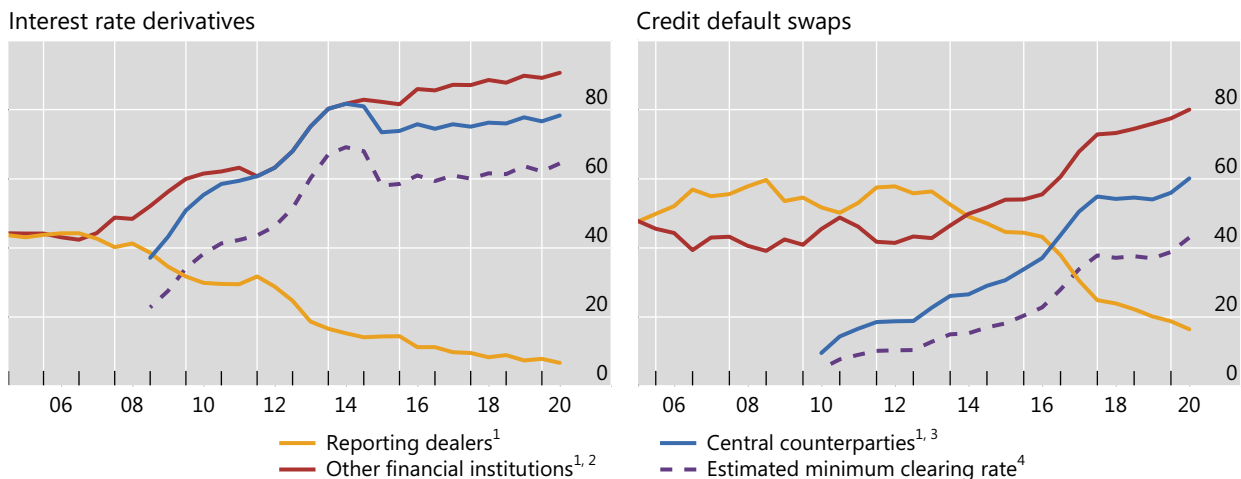
<sup>1</sup> The index ranges from 0 to 10,000, where a lower number indicates that there are many dealers with similar market shares (as measured by notional principal) and a higher number indicates that the market is dominated by a few reporting dealers. <sup>2</sup> Foreign exchange forwards, foreign exchange swaps and currency swaps.

Source: BIS OTC derivatives statistics (available at [www.bis.org/statistics/derstats.htm](http://www.bis.org/statistics/derstats.htm)).

## Growth of central clearing

Notional amounts outstanding by counterparty, in per cent

Graph A8



<sup>1</sup> As a percentage of notional amounts outstanding against all counterparties. <sup>2</sup> Including central counterparties but excluding reporting dealers. <sup>3</sup> For interest rate derivatives, data for CCPs prior to end-June 2016 are estimated by indexing the amounts reported at end-June 2016 to the growth since 2008 of notional amounts outstanding cleared through LCH's SwapClear service. <sup>4</sup> Proportion of trades that are cleared, estimated as  $(CCP / 2) / (1 - (CCP / 2))$ , where CCP represents the share of notional amounts outstanding that dealers report against CCPs. The CCP share is halved to adjust for the potential double-counting of inter-dealer trades novated to CCPs.

Sources: LCH.Clearnet Group Ltd; BIS OTC derivatives statistics (Table D7 and Table D10.1); BIS calculations.