

OTC derivatives statistics at end-December 2023

- The value of outstanding derivatives (notional amounts) grew by 8% overall in 2023. Amounts rose by 15% in the first half of the year and fell by 6% in the second, a seasonal saw-tooth pattern evident since at least 2016.
- Interest rate derivatives, which grew by 8% yoy, drove overall growth in 2023 (up 17% in the first half and down 8% in the second).
- Outstanding FX derivatives (notional amounts) also rose in 2023, growing by 10% in the first half but declining by 0.4% in the second.
- The share of centrally cleared credit default swaps, which had risen steadily over the last decade, dropped from 70% at end-June to 65% at end-December 2023.

Outstanding OTC derivatives rise year-on-year

The overall *notional* value of outstanding OTC derivatives continued its upward trajectory. The year-on-year (yoy) change, where seasonal patterns are not evident, shows significant growth of \$49 trillion, or 8%, the highest annual rate observed since 2017. Amounts grew in the first half of 2023 by 15%, and then contracted by 6% in the second, to reach \$667 trillion (Graph 1.A). This saw-tooth pattern is a result of seasonal factors, particularly evident since 2016, whereby notional outstanding amounts decrease temporarily before the end of each calendar year.¹

Across risk categories, growth rates in 2023 varied. Interest rate derivatives (IRDs), the largest component of the global aggregate, rose by 8% yoy (to \$530 trillion). FX derivatives notional amounts also grew rapidly, by 10% yoy to reach \$118 trillion, with most of the increase occurring in the first half of 2023. For their part, credit derivatives declined by 12% yoy to \$8.7 trillion.

The gross *market* value of outstanding OTC derivatives (summing positive and negative market values) continued its decline from December 2022. It fell by 9% in the second half of 2023 and 13% for the year (Graph 1.B, red line). This was mainly driven by the IRD component, which has come down from its recent high at end-2022 (Graph 1.B, yellow line). That growth in 2022 coincided with a rapid tightening of dollar interest rates, which boosted the market values of outstanding contracts.² As

¹ Such contractions can occur if reporting dealers shrink their outstanding notional derivative positions for regulatory and financial reporting purposes. Possible factors behind such effects were analysed in *OTC derivatives statistics at end-December 2019* (bis.org). The Basel Committee on Banking Supervision identified such practices in its 7 March 2024 call for comments on “measures to address window-dressing in the G-SIB framework” (<https://www.bis.org/press/p240307.htm>).

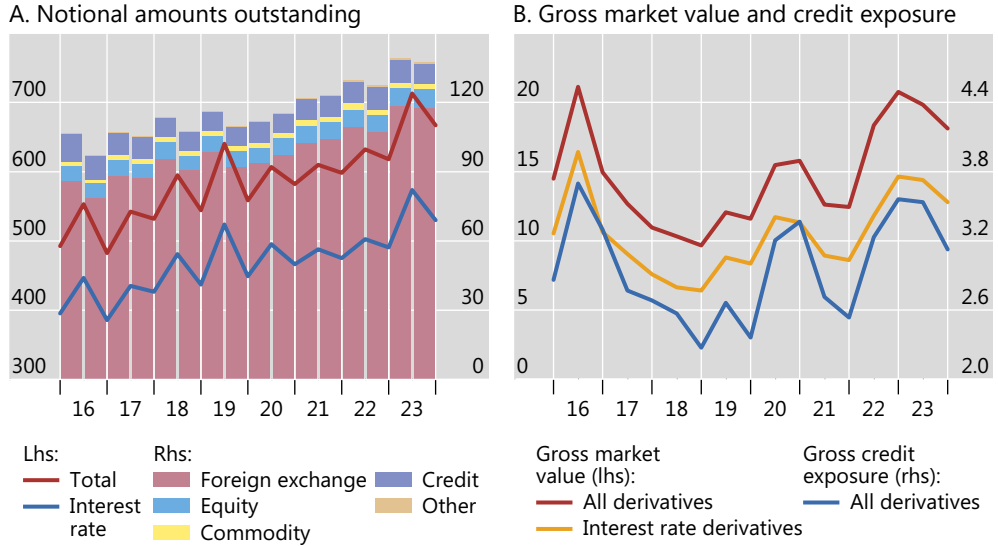
² During 2023, the Federal Reserve raised the dollar interest rate four times, while the ECB raised the euro rate six times. Both did not change the rates in the last quarter of 2023 (See *Effective Federal Funds Rate* (newyorkfed.org) and *Key ECB interest rates* (europa.eu)).

the pace of rate tightening slowed in 2023, the market value of IRD subsequently declined.³

Outstanding OTC derivatives

In trillions of US dollars

Graph 1



Source: BIS OTC derivatives statistics (Tables D5.1 and D5.2).

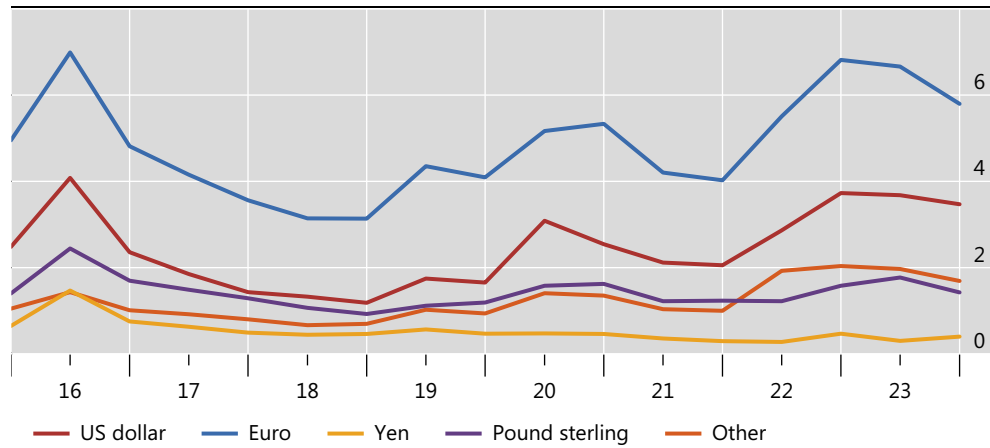
The gross market values of IRDs broken down by currency show a general fall for contracts in all main currencies except the yen (Graph 2). Euro-denominated IRDs declined the most in absolute terms (\$0.9 trillion, or -13%) in the second half of 2023, following a 2% decrease in the first half (Graph 2, blue line). Similarly, US dollar IRDs (red line) dropped by 1% and 6% in the first and second halves of 2023, respectively. By contrast, yen IRDs grew by \$0.1 trillion (34%) in the second half of 2023. This coincided with growing market speculation regarding Japan’s emergence from a negative interest rate environment.

³ Similarly, the gross credit exposure measure – which adjusts gross market values for legally enforceable bilateral netting agreements (but not for collateral) – decreased by 12% in the second half of 2023 to \$3.1 trillion. (Graph 1.B, blue line).

Outstanding interest rate derivatives, gross market values

In trillions of US dollars

Graph 2



Source: BIS OTC derivatives statistics (Tables D5.1 and D5.2).

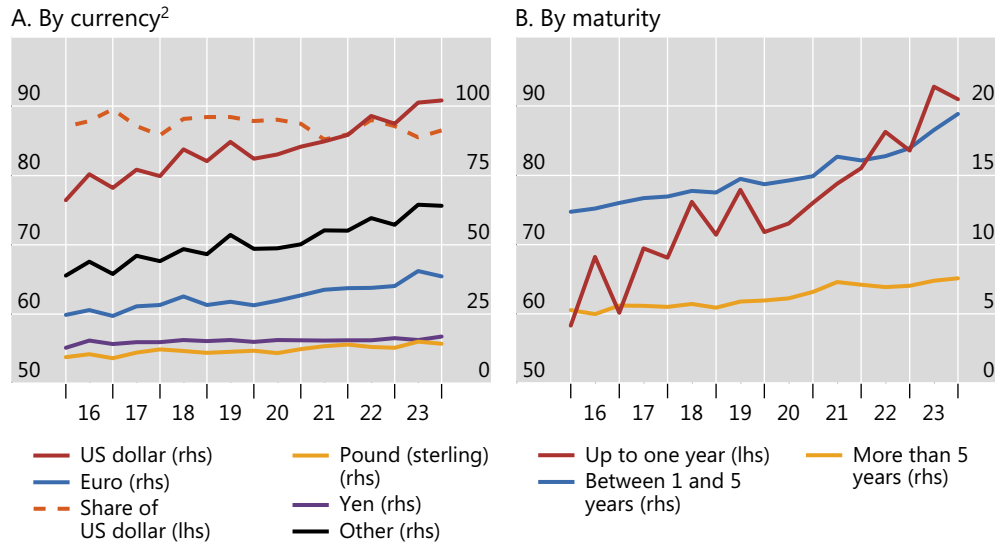
Turning to foreign exchange (FX) derivatives, their notional amounts grew during 2023, principally in the first half of the year (Graph 3.A). This rise was mainly driven by contracts in the US dollar, which is the vehicle currency in FX markets (dashed line). These developments represent a continuation of the trends observed since the mid-2010s. Outstanding positions have risen by 50% since 2016, mainly reflecting greater contracts involving the US dollar (red line) and the euro (blue line) or the US dollar and "other currencies" (black line). Contracts involving GBP or JPY on one side have remained relatively stable over this period (yellow and purple lines, respectively).

The rise in notional values of FX derivatives in 2023 was particularly evident in the short-term segment where maturities of up to one year increased by \$7.4 trillion, or 9% yoy, to \$91 trillion at end-2023 (Graph 3.B).

FX derivatives, notional amounts outstanding¹

In trillions of US dollars

Graph 3



¹ Comprise outright forwards, swaps and OTC options. ² Currency distribution is presented on a 200% basis because currency pairs contribute to totals of both currencies in the pair.

Source: BIS OTC derivatives statistics (Tables D5.1 and D9).

Trend towards central clearing slows

The trends towards central clearing of derivatives across risk categories diverged somewhat in 2023. The shares of IRD and FX derivatives (in terms of notional amounts) that are centrally cleared changed little, sitting near 76% (Graph 4.B, red line) and 5% (dashed yellow line), respectively. By contrast, clearing of credit default swaps (CDS) dropped from 70% to 65% in the second half of 2023 (blue line).

The drop in the share of cleared CDS contracts coincided with an outsized fall in outstanding positions.⁴ The notional value of CDS dropped by 14% in the second half of 2023, from \$9.9 trillion to \$8.5 trillion (Graph 4.A, blue line). The driving factor was the drop in dealer banks' positions with "other financial institutions", which comprise mainly central counterparties but also non-bank financial institutions and non-reporting banks (Annex Graph A.6). At the same time, interdealer positions grew slightly, and positions with non-financials were relatively unchanged.

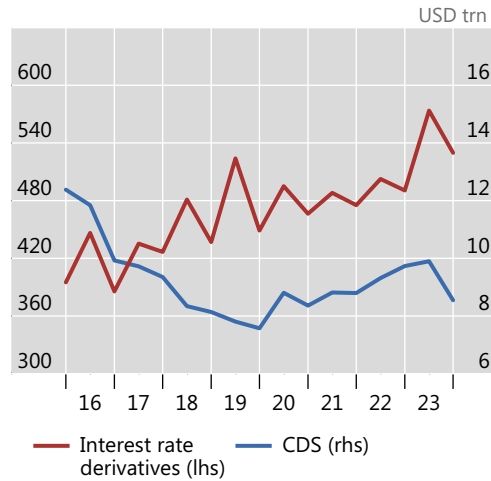
⁴ Regarding a drop in notional amounts, other sources also confirm this. The International Swaps and Derivatives Association (ISDA) reports that credit derivatives dropped in both notional amounts and number (ISDA, "SwapsInfo-Full-Year-2023-and-the-Fourth-Quarter-of-2023-Review.pdf", February 2024, [isda.org](https://www.isda.org)). Clarus also reports a decrease in CCP credit derivative volumes for trades in the US dollar, euro and yen (2023 CCP Volumes and Share in CRD and FXD | [clarusft.com](https://www.clarusft.com)). In October 2023, Intercontinental Exchange (ICE) ceased offering clearing services for CDS instruments (ICE, "ICE Announces Successful Transition of Credit Default Swap Open Interest from ICE Clear Europe", 30 October 2023, [theice.com](https://www.theice.com)).

Interest rate and credit derivatives

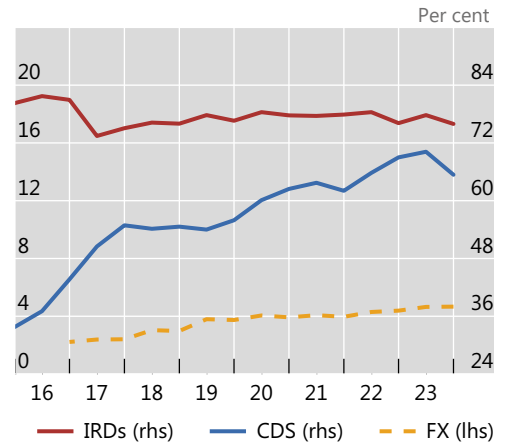
Notional amounts outstanding and central clearing

Graph 4

A. Notional amounts outstanding



B. Central clearing of derivatives¹



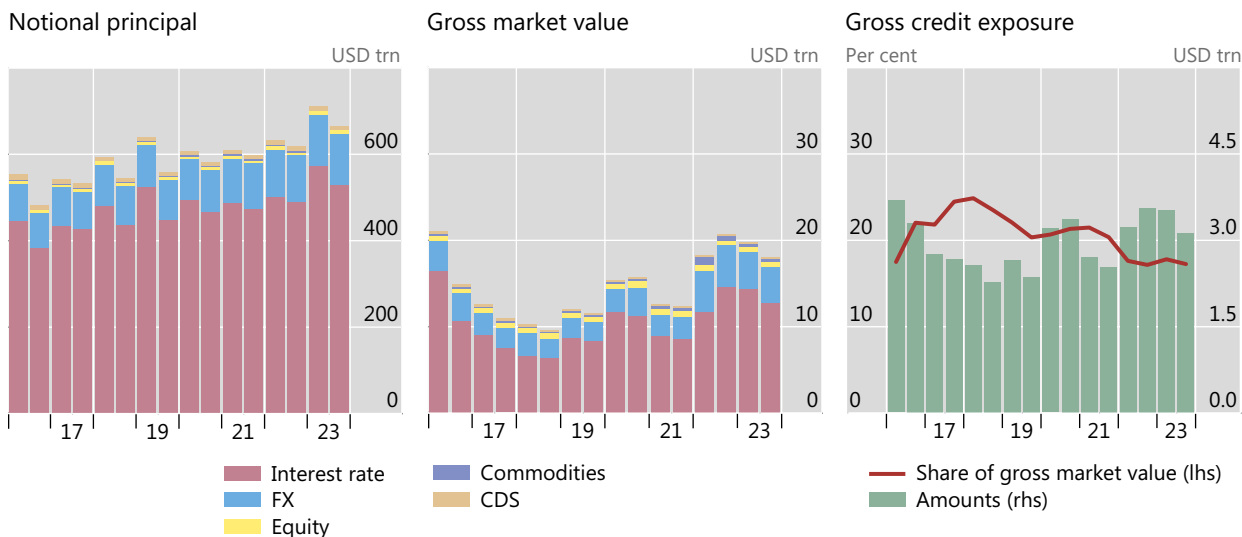
¹ Percentage of notional amounts outstanding of OTC interest rate derivatives (IRDs) and credit default swaps (CDS) cleared by central counterparties (CCPs).

Source: BIS OTC derivatives statistics (Tables D5.1 and D10.1).

Annex

Global OTC derivatives markets¹

Graph A.1



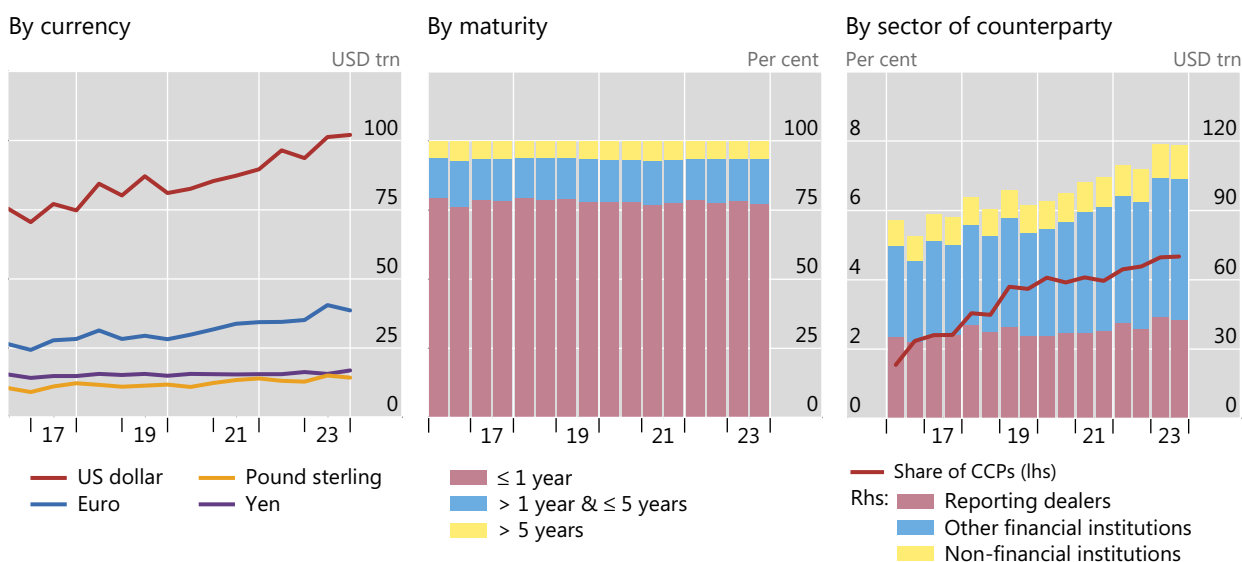
¹ At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS OTC derivatives statistics.

OTC foreign exchange derivatives¹

Notional principal

Graph A.2



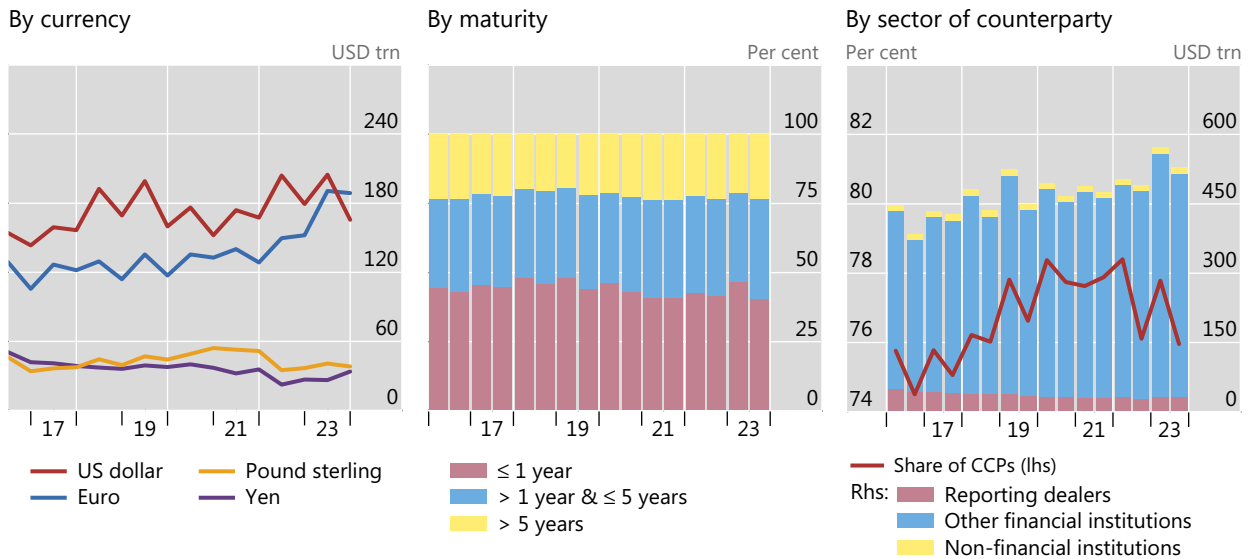
¹ At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS OTC derivatives statistics.

OTC interest rate derivatives¹

Notional principal

Graph A.3



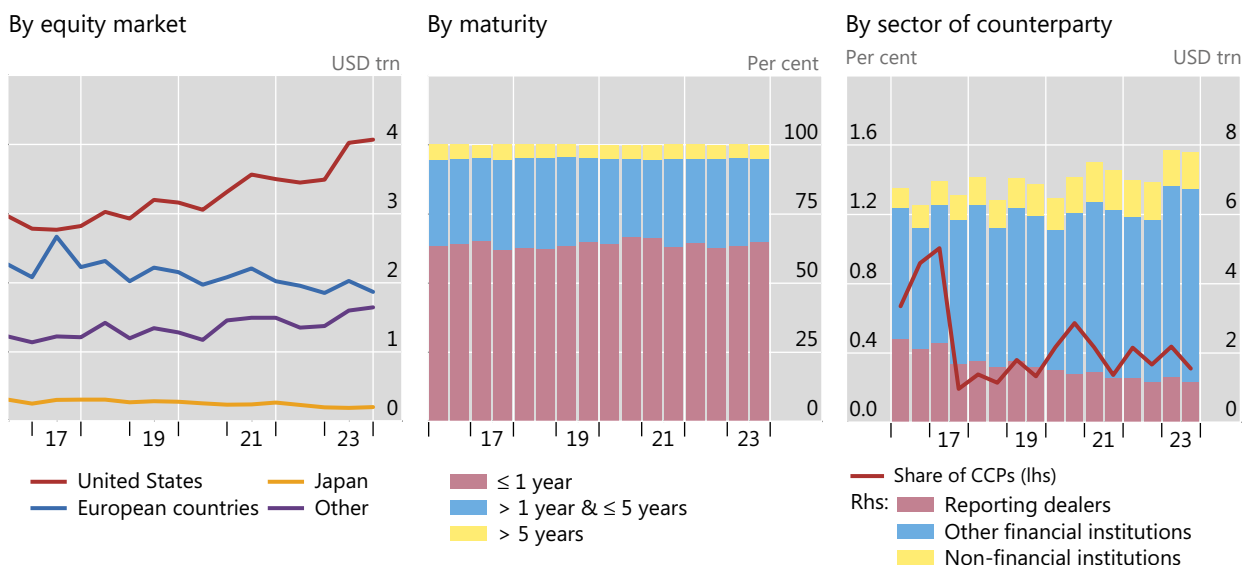
¹ At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS OTC derivatives statistics.

OTC equity-linked derivatives¹

Notional principal

Graph A.4

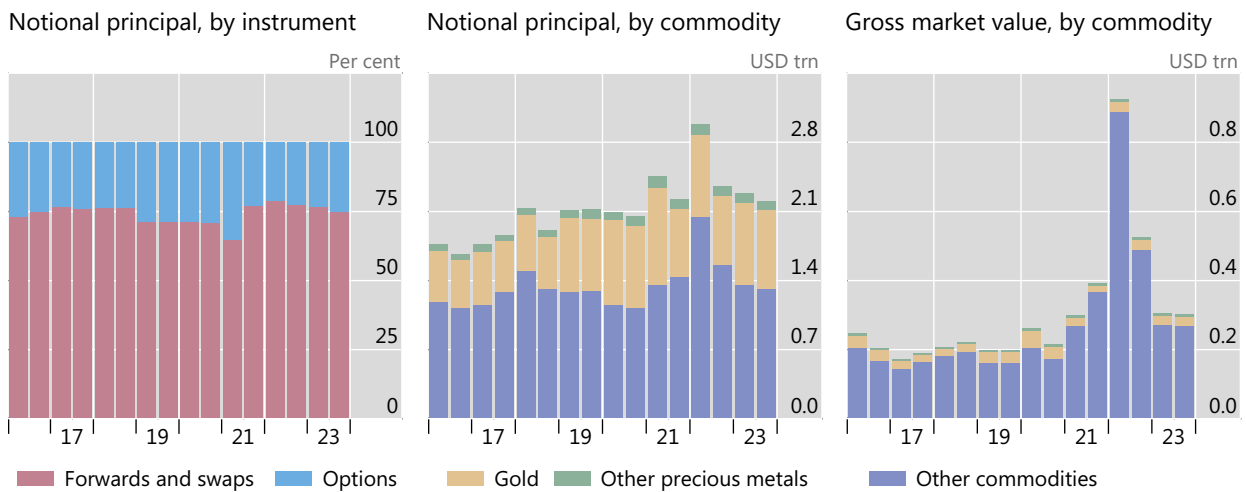


¹ At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS OTC derivatives statistics.

OTC commodity derivatives¹

Graph A.5

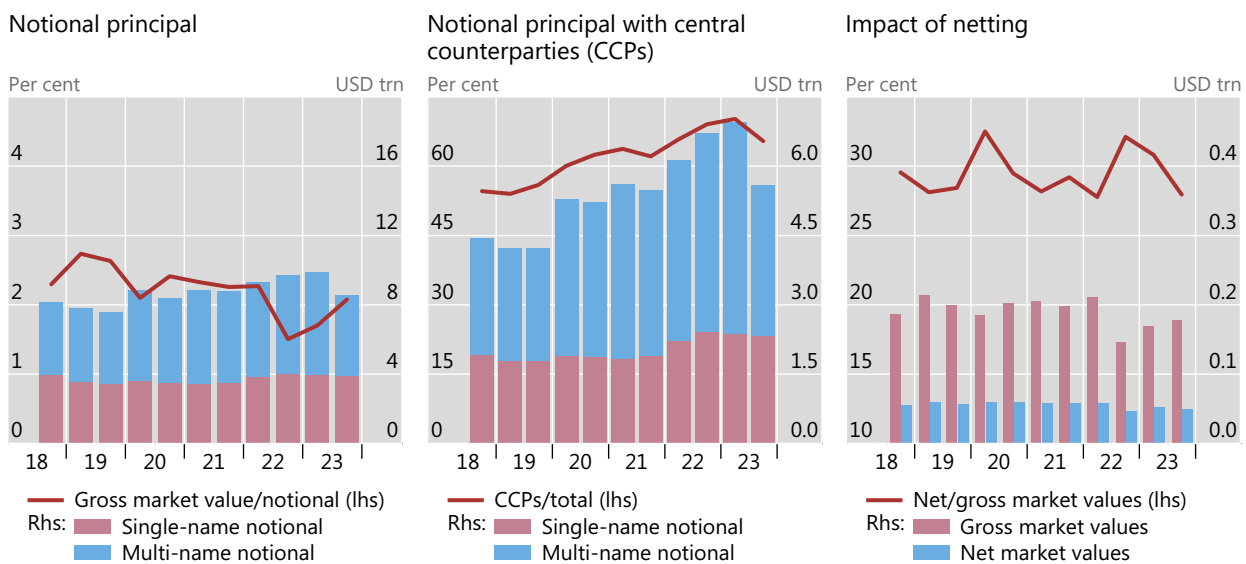


¹ At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS OTC derivatives statistics.

Credit default swaps¹

Graph A.6



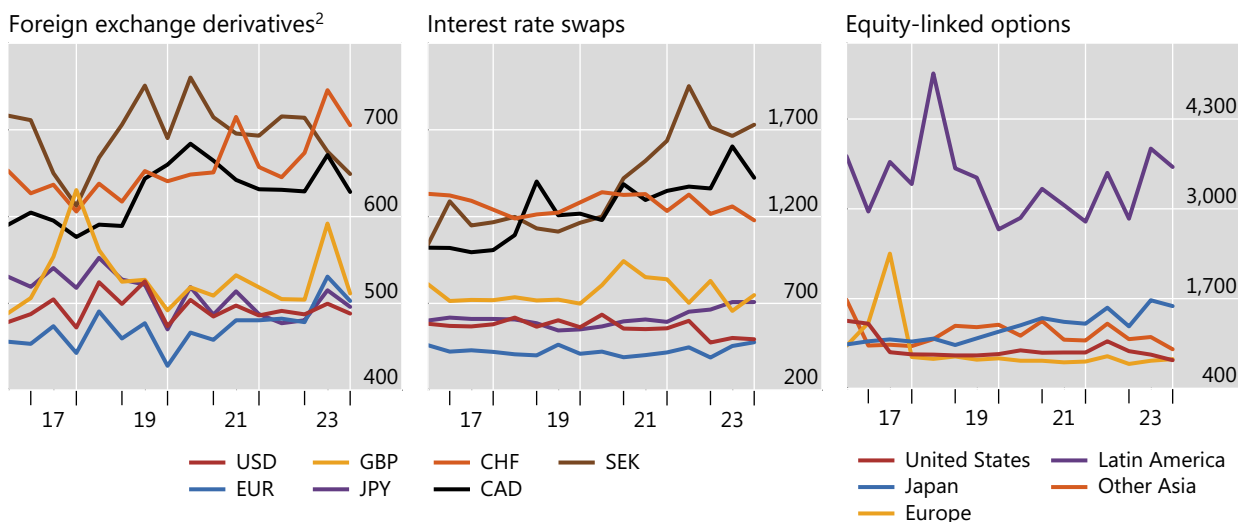
¹ At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS OTC derivatives statistics.

Concentration in global OTC derivatives markets

Herfindahl index¹

Graph A.7



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

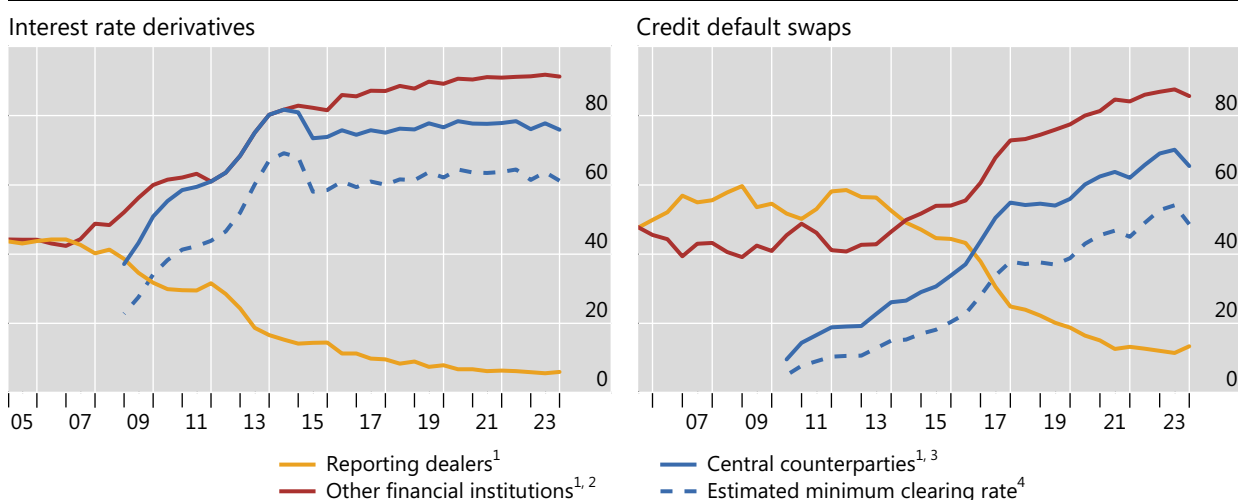
¹ The index ranges from 0 to 10,000, where a lower number indicates that there are many dealers with similar market shares (as measured by notional principal) and a higher number indicates that the market is dominated by a few reporting dealers. ² Foreign exchange forwards, foreign exchange swaps and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

Source: BIS OTC derivatives statistics.

Growth of central clearing

Notional amounts outstanding by counterparty, in per cent

Graph A.8



¹ As a percentage of notional amounts outstanding against all counterparties. ² Including central counterparties but excluding reporting dealers. ³ 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. ⁴ 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.