



The Global Association of Central Counterparties

# PUBLIC QUANTITATIVE DISCLOSURE

## PQD QUARTERLY TRENDS REPORT

2022 Q4 DATA



Mar-23

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# CCP PQDs

The CCP12 PQD Quarterly Trends Report provides an overview of the risk management provided by CCPs across the globe. It complements existing public statistics, such as the BIS derivatives statistics, by providing a summary of key indicators which provides market participants an overview of the CCP ecosystem. The publication underlines the scope and scale of risk mitigation provided by central clearing:

- CCPs exposure to credit risk is collateralized through high-quality and liquid collateral;
- CCPs risk-manage their clearing exposure by collecting mark-to-market losses through regular variation margin (or similar) payments.

This CCP12 PQD Quarterly Trends Report helps to inform market participants, authorities, and the general public of key features, the scale and nature of financial market infrastructure risk management. The data is aggregated directly from the CCPs themselves according to the CCP12 standardized template, carrying information stipulated in global regulatory guidance. Further details for individual CCPs can be found in links provided on the [CCP12 website](#) and page 23 of this report.

## PQD UPDATES FOR 2022 Q4

- Two CCP12 members began publishing their PQDs in the standardized CCP12 PQD Template and have been included into the Newsflash and QTR collation for 2022 Q4.
  - [ID Clear](#) (PT Kliring Penjaminan Efek Indonesia)
  - [VSD](#) (Vietnam Securities Depository)

## IN THIS COLLATION FOR 2022 Q4

Data for 54 CCPs across Americas, APAC and EMEA (equivalent to 33 CCP12 members) are included in this quarter's collation<sup>†</sup>:

|                 |           |
|-----------------|-----------|
| <b>Americas</b> | <b>16</b> |
| <b>APAC</b>     | <b>22</b> |
| <b>EMEA</b>     | <b>16</b> |

|  |                    |
|--|--------------------|
| <b>6.1.1 Global IM (Required):</b>               | <b>USD 1,260 B</b> |
| <b>4.1.4 Global DF (Required):</b>               | <b>USD 126 B</b>   |
| <b>Global Overcollateralization<sup>‡</sup>:</b> | <b>USD 484 B</b>   |

For any questions, please get in touch: [question.pqd@ccp12.org](mailto:question.pqd@ccp12.org)

<sup>\*</sup>All PQD dates are forced to "quarter-end" to reflect the quarter-end exchange rates per currency, i.e., if the PQD date is "YYYY-06-28", then, this is adjusted to "YYYY-06-30", and the corresponding FX rate.  
<sup>†</sup>CC&G and NCC PQD figures are incorporated as non-CCP12 members. CC&G, NZX, SHCH: 2022Q3 PQD figures were used in this report since these PQDs were not released as of the QTR release, with the exception of NCC where the 2021Q4 PQDs have been used each quarter due to these not being available at present. CCIL require regulatory approval of their PQD figures due to local regulations. The release of the SHCH Q4 PQD coincides with the release of their annual audit report, therefore, the SHCH 2022Q3 PQD figures were used since the 2022Q4 PQD will be available later in the release month.  
<sup>‡</sup>Calculated as (Total IM and DF Held PostHaircut) minus (Total IM and DF Required). Disclosures (6.2.15 + 4.3.15) – (6.1.1 + 4.1.4) = Total Overcollateralization. (Only PostHaircut values used for Held values).

# Commentary for the quarter 2022 Q4

## Below are a few key market developments which took place in the fourth quarter of 2022:

- The threat of high inflation lingered in 2022 Q4 as the global focus shifted to central banks as they tackled the challenges of a higher inflationary environment than anticipated, coupled with low growth. Core bond yields pulled back slightly across all major advanced economies and the US dollar weakened from historical highs as inflation saw a mild reduction.<sup>1</sup>
- Equity markets showed signs of a mixed recovery across 2022, to which they were generally down for the year. Some key equities remained flat for quarter under review (Q4) while others showed relatively positive returns. APAC equities were fairly resilient for 2022 Q4 as China loosened its pandemic restrictions.<sup>2</sup>
- US equities made to some extent positive gains in Q4, while UK equities rose moderately over the quarter, supported by the new fiscal and monetary regime set after the September “mini-budget” crisis. Overall, market confidence remained uncertain across the broad spectrum of equities as investors fought with increasing inflation, recessionary fears, and tighter financial conditions.<sup>1</sup>
- The Federal Reserve (Fed) raised rates twice in 2022 Q4, ending at 4.5%. The Bank of England also announced two rate hikes, bringing the UK interest rate to 3.5%, while the Bank of Japan announced a modification to its yield curve control policy and the ECB raised interest rates by 50 basis points (bps) in December to 2.5%, a slower pace than its previous 75 bps hikes.<sup>3</sup>
- Global commodity prices eased in most markets despite the unclear road ahead given geopolitical turmoil. In October, the OPEC+ members announced the reduction in their oil production target by 2 million barrels per day (mb/d), however, prices were still volatile. Natural gas prices dropped in 2022 Q4 from their August 2022 highs across Europe due to very prominent actions by countries to rebuild their inventories whilst reducing their reliance on Russian gas. However, lingering supply disruptions persisted for refined products, and long-term energy outlook remained uncertain.<sup>1,4</sup>
- Global futures and options volumes saw record figures for 2022 Q4 with futures reaching 7.3B contracts and options reaching 15.9B contracts overall. The highest monthly volume was observed in December with 8.4B contracts, an increase of 8.9% from November 2022 and an increase of 37.4% from December 2021. The equity index bucket remained the most significant contributor to volume growth across both contracts, followed by individual equity, currency and interest rates. The total open interest at the end of December was 1.1B contracts, an increase of almost 1.0% from a year prior.<sup>5</sup>

1 [BIS Quarterly Review, December 2022](#)

2 [Schroders: Wall Street Journal, 2022-11-10](#)

3 [BIS Policy Rate Statistics](#)

4 [Commodity Markets Outlook, World Bank, October 2022](#)

5 [FIA Futures and Options data](#)

# Headline Statistics of the Public Quantitative Disclosures

## 2022 Q4

### Global CCP Margin\* (USD B)

#### Global Initial Margin & Default Fund (Required):

|  |       |
|--|-------|
| Total Global IM Required (6.1.1)                     | 1,260 |
| Total Global DF Required (4.1.4)                     | 126   |
| Total Global CCP Collateral Required (6.1.1 + 4.1.4) | 1,385 |

#### Global IM & DF Held (PostHaircut):

|  |       |
|--|-------|
| Total Global IM Held (PostHaircut) (6.2.15)                      | 1,721 |
| Total Global DF Held (PostHaircut) (4.3.15)                      | 147   |
| Total Global CCP Collateral Held (PostHaircut) (6.2.15 + 4.3.15) | 1,868 |

#### Global Variation Margin (VM)

|  |    |
|--|----|
| Sum of Total Global Average Daily VM Paid to the CCP by participants each business day (6.6.1) | 44 |
|--|----|

#### Global Overcollateralization (OC)

|                                       |     |
|---------------------------------------|-----|
| Total Global IM Overcollateralization | 461 |
| Total Global DF Overcollateralization | 23  |
| Total Global Overcollateralization    | 484 |

### Total Global CCP Collateral (Held) (PostHaircut) in form of\*:

#### Cash

|   | Disclosure      | Initial Margin | Disclosure      | Default Fund |
|---|-----------------|----------------|-----------------|--------------|
| <i>At Central Bank</i>  | (6.2.1 + 6.2.2) | 19.2%          | (4.3.1 + 4.3.2) | 48.0%        |
| <i>Secured Cash (incl. Reverse Repos) at Commercial Banks</i> | 6.2.3           | 10.5%          | 4.3.3           | 9.9%         |
| <i>Unsecured Cash at Commercial Banks</i>                     | 6.2.4           | 4.0%           | 4.3.4           | 7.3%         |

#### Non-Cash

|                                       |        |       |        |       |
|---------------------------------------|--------|-------|--------|-------|
| <i>Sovereign Gov Bonds - Domestic</i> | 6.2.5  | 23.3% | 4.3.5  | 29.0% |
| <i>Sovereign Gov Bonds - Foreign</i>  | 6.2.6  | 17.1% | 4.3.6  | 2.6%  |
| <i>Agency Bonds</i>                   | 6.2.7  | 1.1%  | 4.3.7  | 1.9%  |
| <i>State/Municipal Bonds</i>          | 6.2.8  | 0.6%  | 4.3.8  | 0.1%  |
| <i>Corporate Bonds</i>                | 6.2.9  | 6.1%  | 4.3.9  | 0.8%  |
| <i>Equities</i>                       | 6.2.10 | 4.3%  | 4.3.10 | 0.3%  |
| <i>Commodities - Gold</i>             | 6.2.11 | 0.2%  | 4.3.11 | 0.0%  |
| <i>Commodities - Other</i>            | 6.2.12 | 0.0%  | 4.3.12 | 0.0%  |
| <i>Mutual Funds/UCITs</i>             | 6.2.13 | 0.3%  | 4.3.13 | 0.0%  |
| <i>Other</i>                          | 6.2.14 | 2.5%  | 4.3.14 | 0.3%  |

\*The sum of the % in the IM column ≠ 100% since: The sum of IM Held across 6.2.1 – 6.2.14 is slightly lower than the Total IM Held Values for 6.2.15, due to DTCC requesting that 6.2.15 figures be equivalent to 4.3.15 figures; and 4 other CCPs providing only totals for their 6.2.15 values.  
 OCC 6.2.1 – 6.2.14 House, Client and Total "PreHaircut" figures are considered "PostHaircut" values for the purpose of analysis.  
 Data has been normalized to USD equivalent, based on a conversion from FX rates provided by the ECB. Based on foreign exchange rates at the quarter-end for each PQD quarterly release.

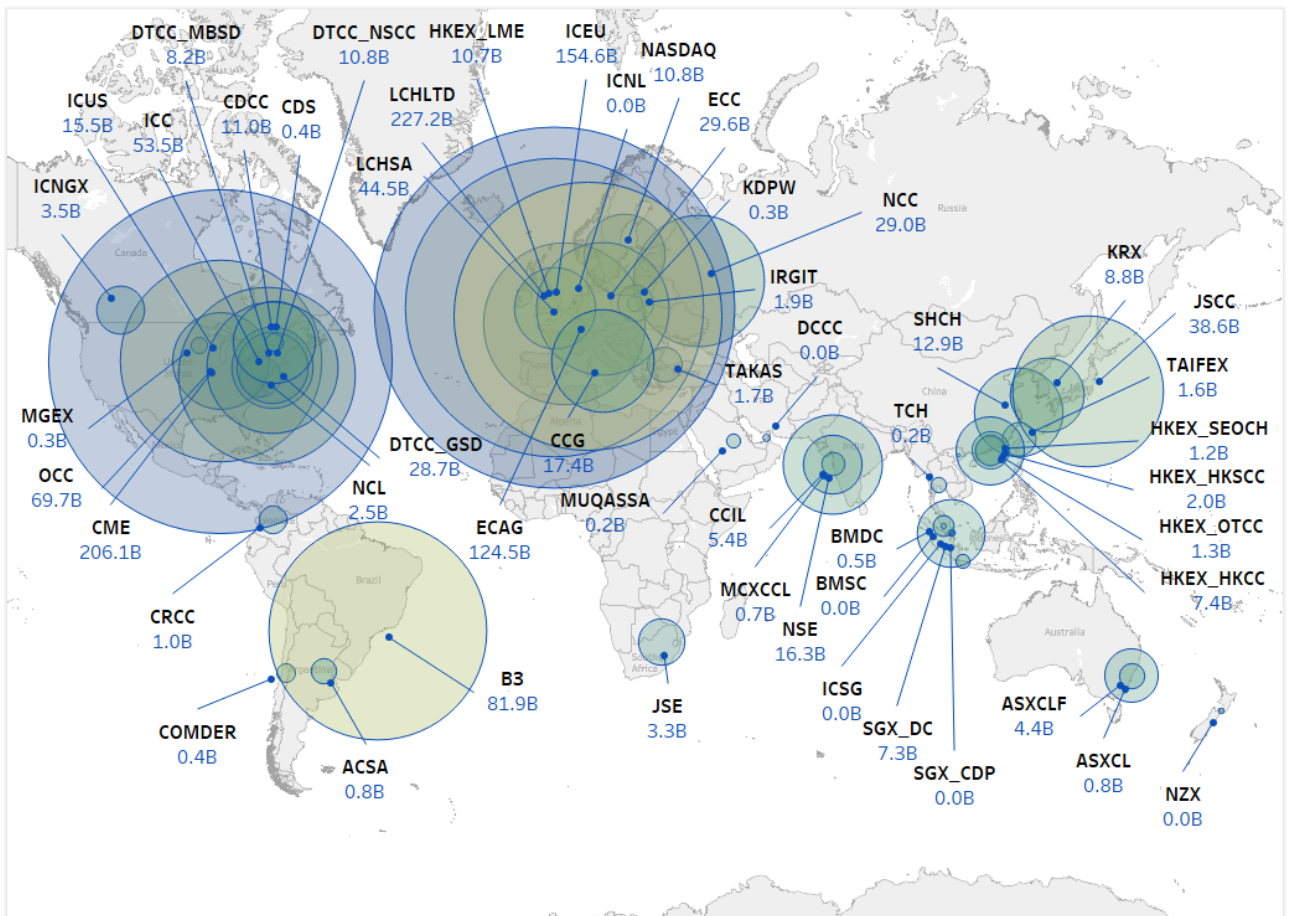


# Collateral View

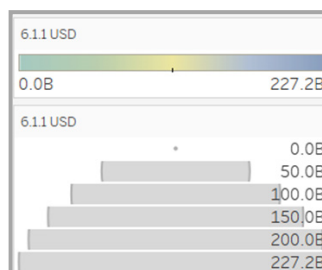
A collection of maps each quarter providing an overview of the global distribution of Initial Margin, Default Fund and Variation Margin from a global perspective.

2022 Q4

## 6.1.1: Global IM (Required) Per CCP\*



The coloured disks indicate the size of the IM (Required) (according to the key, opposite), from a geographical perspective.



\*Based on the CCP's city location. For CCPs that are from the same city location, they are hidden behind the larger transparent disks. Muqassa: IM = 0 for certain quarters, since at those reporting dates, there were no open contracts and hence no IM requirement for any members.

6.1.1 IM values (not seen from map):

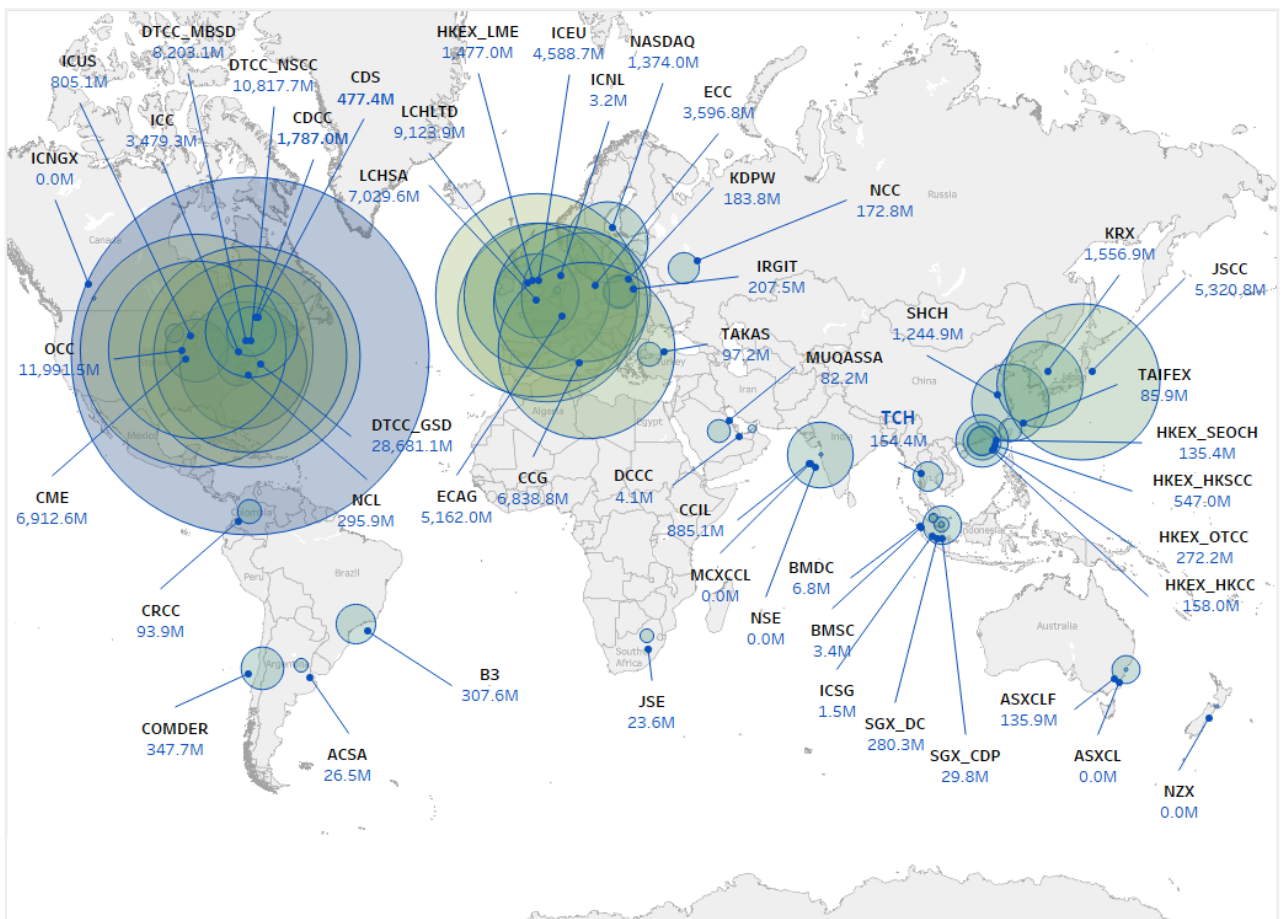
| CCP     | 6.11USD       |
|---------|---------------|
| CCP     | 0.00          |
| ICNL    | 378,285.10    |
| ICSG    | 7,584,053.67  |
| NZX     | 8,337,752.53  |
| BMSC    | 25,953,516.78 |
| SGX_CDP | 26,215,305.00 |
| DCCC    |               |

# Collateral View

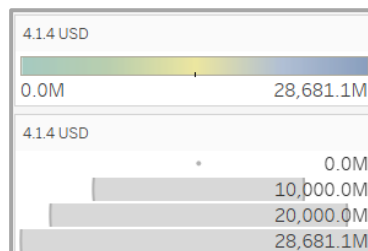
A collection of maps each quarter providing an overview of the global distribution of Initial Margin, Default Fund and Variation Margin from a global perspective.

2022 Q4

## 4.1.4: Global DF (Required) Per CCP\*



The coloured disks indicate the size of the DF fund (Required) per CCP (according to the key, opposite), from a geographical perspective.



\*Based on the CCP's city location. For CCPs that are from the same city location, they are hidden/overlaid behind the larger transparent disk. 4.1.4 DF (Required) is zero for ASXCL, ICNGX, MCXCLL, NSE, NZX. For further details, please see the respective CCP's PQD.

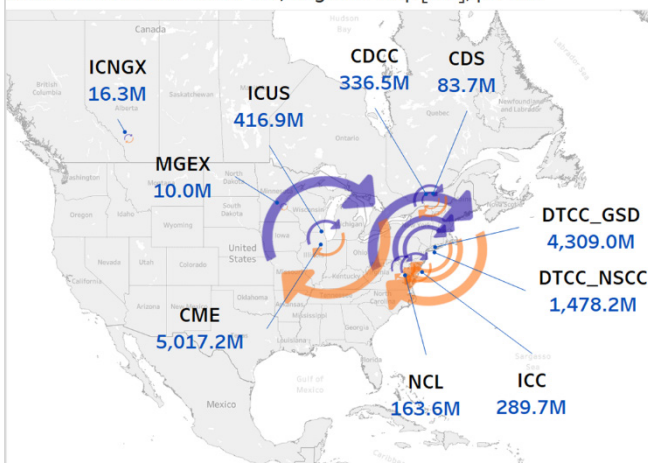
# Collateral View

A collection of maps each quarter providing an overview of the global distribution of Initial Margin, Default Fund and Variation Margin from a global perspective.

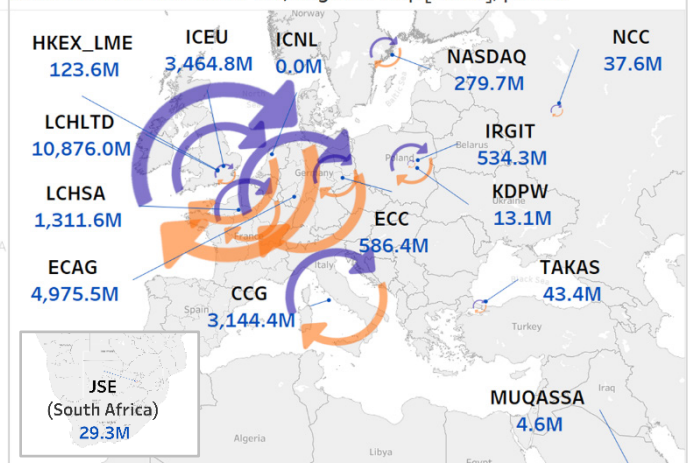
## 2022 Q4

### 6.6.1: Total VM Paid to the CCP by participants each business day\*

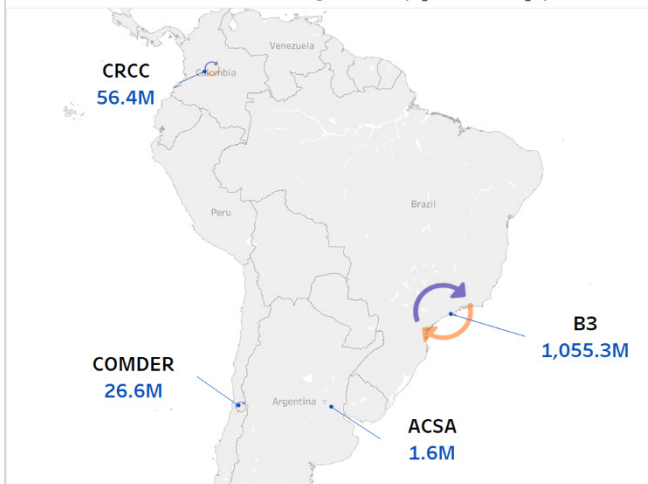
6.6.1: Sum of Total Global VM, Regional Map [U.S.], per CCP



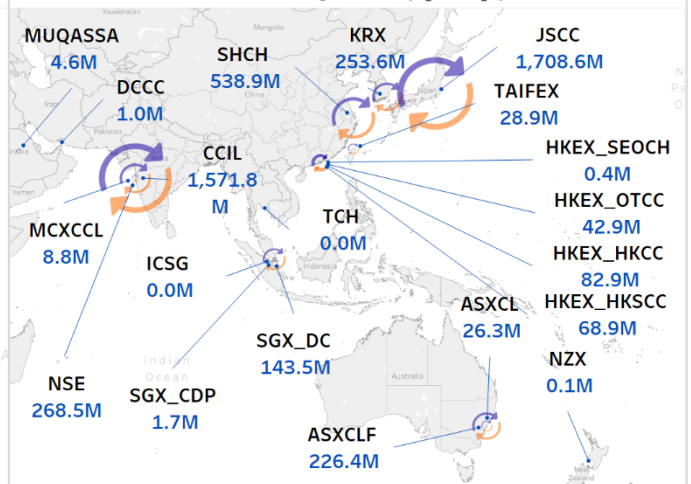
6.6.1: Sum of Total Global VM, Regional Map [EMEA], per CCP



6.6.1: Sum of Total Global VM, Regional Map [S. America], per CCP



6.6.1: Sum of Total Global VM, Regional Map [APAC], per CCP



Maps *not* to scale relative to each other.



The double arrows indicate the size of the variation margin (VM) flow from a geographical perspective\*. Please see the footnote below and [page 15](#) for details about VM.

\*CCPs collect VM from clearing members for losses on positions and pay the gains with finality to those clearing members with positions that have a net increase in value based on marked-to-market prices. VM is not paid directly from any specific clearing member or customer counterparty to another as a pass-through transfer, VM is a netted cash flow from a clearing member to (or from) the CCP.

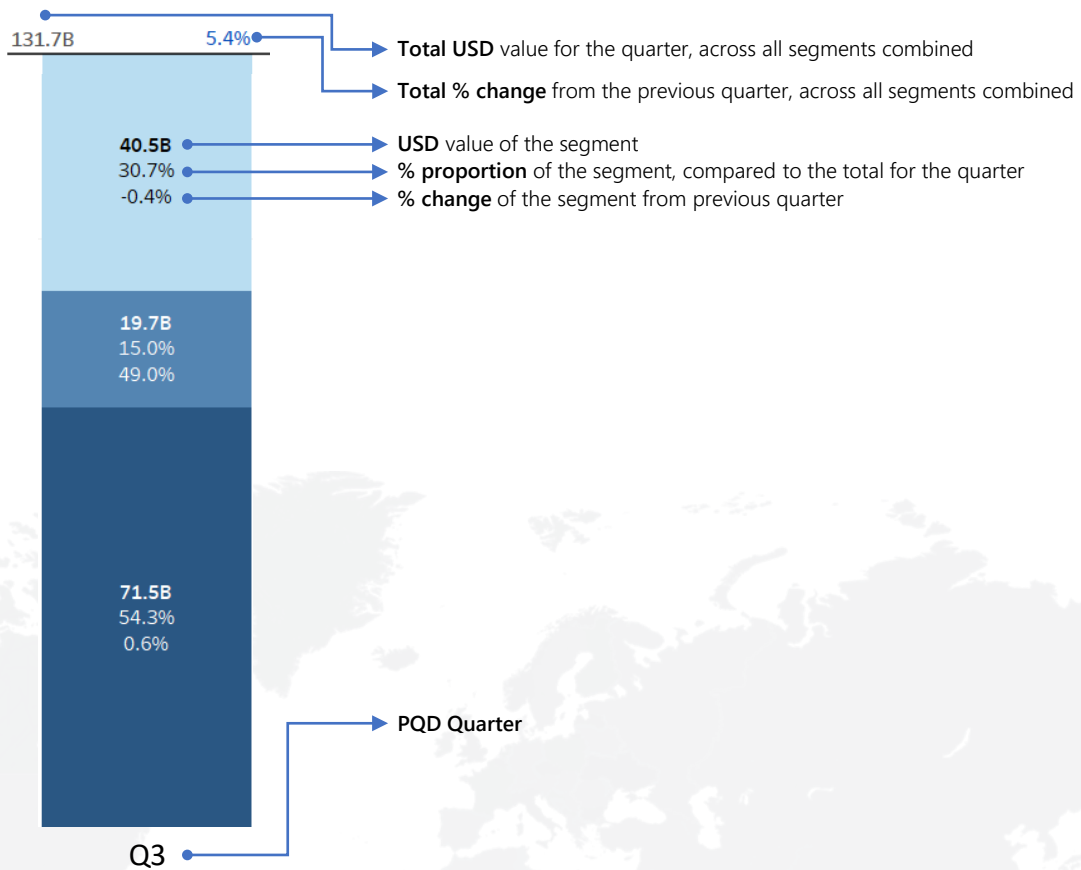
6.6.1: OCC – See PQD explanatory notes. ICNL, IRGIT, TCH values are zero, based on their respective PQDs.



# PQD Statistics Key

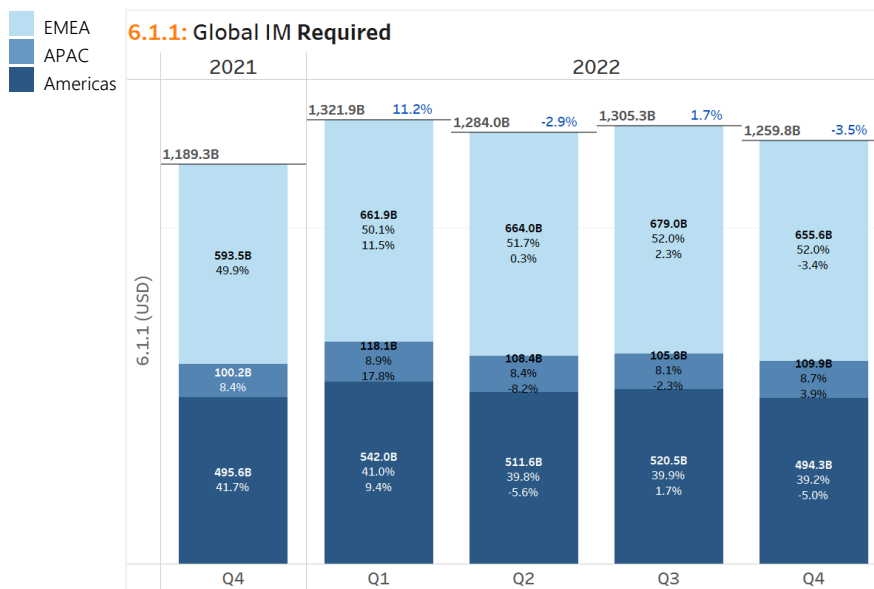
## Bar Chart Key:

The key below provides details on how to interpret statistics in the subsequent charts of this report. The key is used for only charts where there are three data points per segment, as shown below:



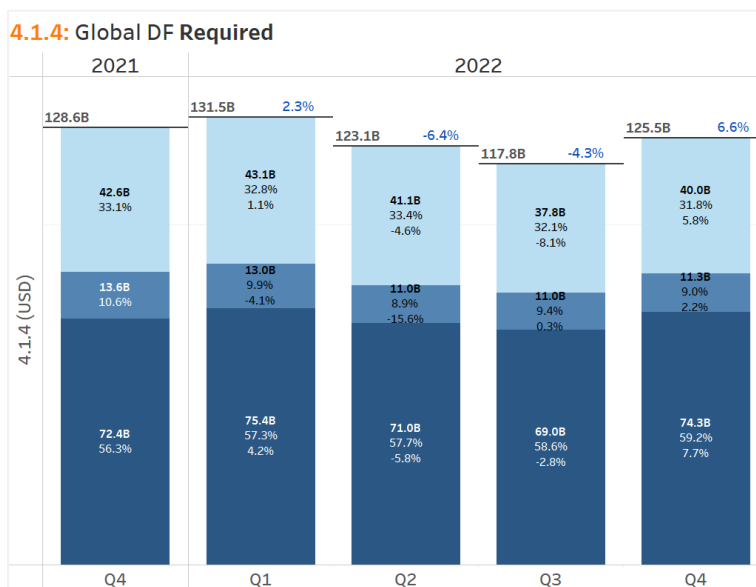
**Total IM Required decreased by -3.5% for 2022 Q4, compared to DF Required which increased by +6.6%. Proportion across each region has remained steady.**

**Global CCP Collateral (Required) - Grand Total  
2021 Q4 to 2022 Q4 (USD B, %)**



The chart opposite (6.1.1: *Global IM Required*) indicates the total amount of initial margin in total for the CCPs by their clearing members across the respective regions which is reported at the quarter-end under disclosure 6.1.1 in the CCP Public Quantitative Disclosures.

The initial margin collateral posted by clearing members functions as one of the initial lines of defence to cover the potential losses incurred if that clearing member was to default. CCPs are therefore able to have a very high level of resilience in the form of liquidity and low risk exposure.



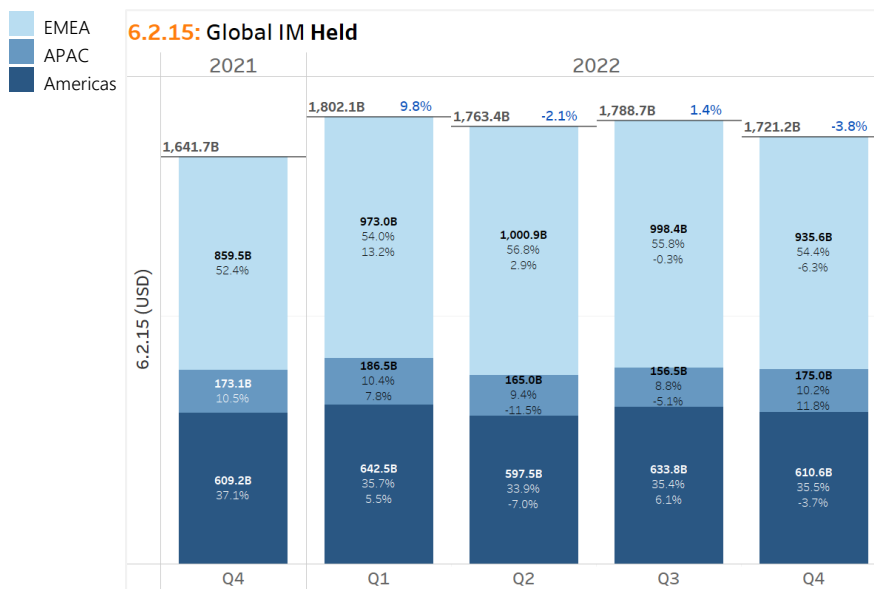
The chart opposite (4.1.4: *Global DF Required*) indicates the total amount of default fund contributions in total for the CCPs by their clearing members across the respective regions which is reported at the quarter-end under disclosure 4.1.4 in the CCP Public Quantitative Disclosures.

The purpose of the mutualized CCP default fund is to provide the necessary funds in case the losses from a clearing member's default exceeds the clearing member's margin collateral and individual default fund contributions. It is part of the risk management incentives framework in central clearing.

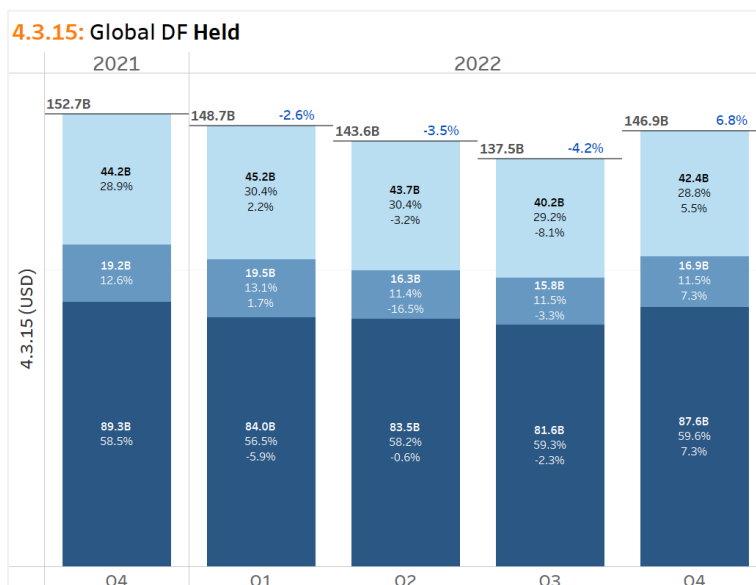
More information regarding the CCP lines of defence can be found on the CCP12 website [here](#).

**Total IM Held** decreased by **-3.8%** for 2022 Q4, compared to **DF Held** which increased by **+6.8%**. Distribution of IM Held is consistently the largest for EMEA, followed by Americas & APAC.

**Global CCP Collateral (Held) (PostHaircut) - Grand Total**  
2021 Q4 to 2022 Q4 (USD B, %)



The chart opposite (6.2.15: *Global IM Held*) indicates the total amount of initial margin in total for the CCPs by their clearing members across the respective regions which is reported at the quarter-end under disclosure 6.2.15 in the CCP Public Quantitative Disclosures..



The chart opposite (4.3.15: *Global DF Held*) indicates the total amount of default fund contributions in total for the CCPs by their clearing members across the respective regions which is reported at the quarter-end under disclosure 4.3.15 in the CCP Public Quantitative Disclosures.

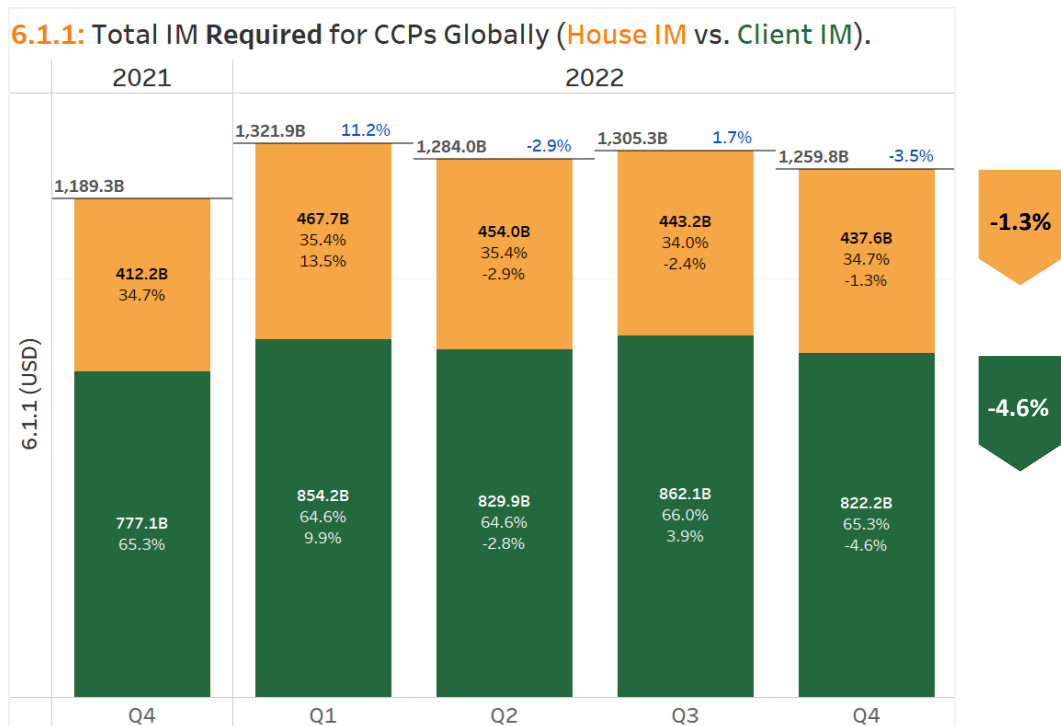
From the House IM vs Client IM split, House IM decreased by **-1.3%**, compared to Client IM which decreased by **-4.6%**. House IM accounted for 34.7% of the margin requirement, compared to 65.3% for Client IM.

**Global IM breakdown: House IM vs. Client IM (Required)**

Disclosure (6.1.1):

2021 Q4 to 2022 Q4 (USD B, %)

House IM  
Client IM



The chart above (6.1.1: Total IM required for CCPs Globally (House IM vs. Client IM)) indicates split between House and Client IM which is reported at the quarter-end under disclosure 6.1.1.

The House IM segment is the initial margin requirement for positions held by clearing members for their own portfolios, as opposed to the initial margin requirement for the clearing member's clients. House Gross/Net and Client Gross/Net are grouped together for the purpose of analysis.

\*Sum of IM Required is slightly lower than the Total IM Required (previous page), due to no breakdown of House/Client IM Required for HKEX HKSCC, HKEX OTCC and NSE. As a result, these are assumed House IM.

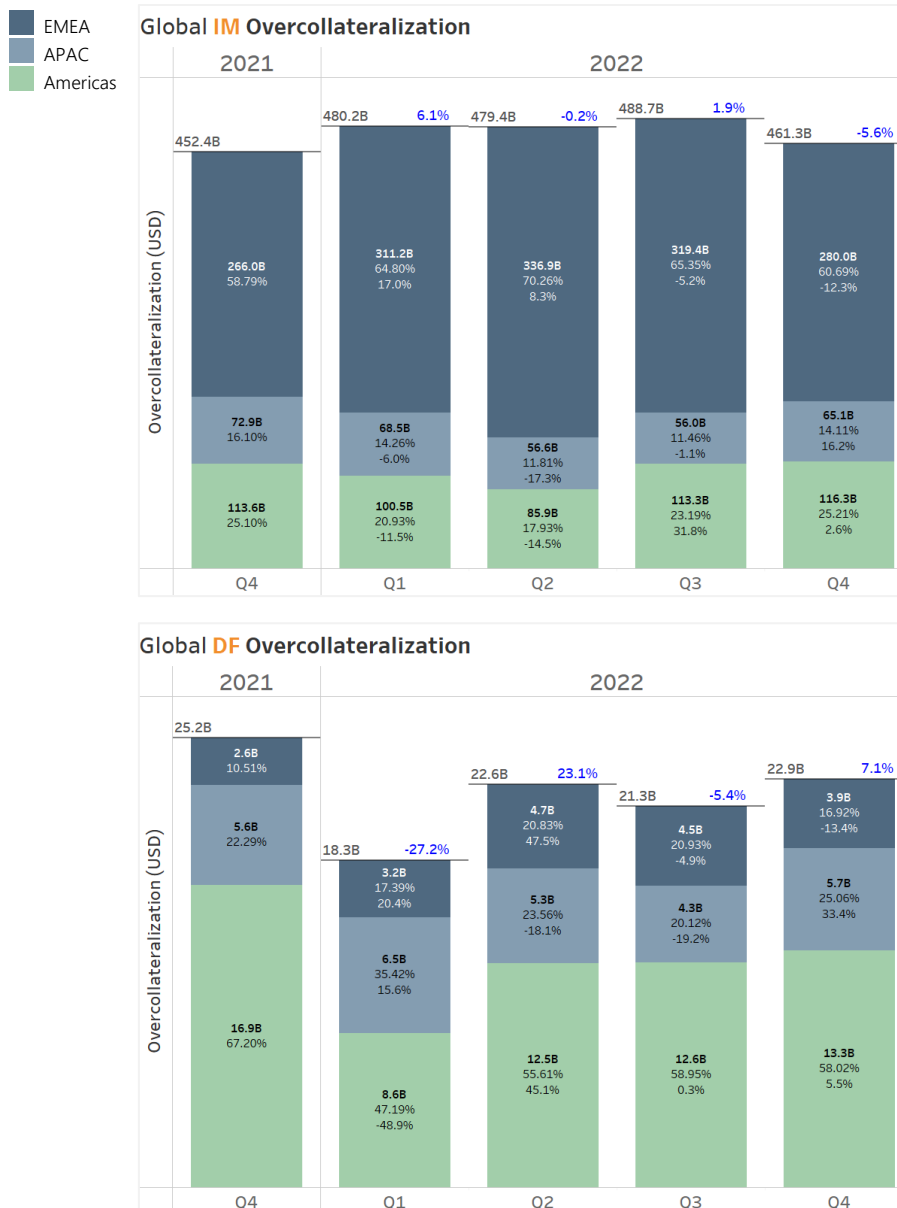
**Global IM Overcollateralization** was USD 461.3B for 2022 Q4, representing a decrease of **-5.6%** from 2022 Q3.  
**Global DF Overcollateralization** was USD 22.9B for 2022 Q4, representing an increase of **+7.1%** from 2022 Q3.

**Global CCP IM and DF Overcollateralization\***

Disclosures IM OC: **(6.2.15) – (6.1.1)**

Disclosures DF OC: **(4.3.15) – (4.1.4)**

2021 Q4 to 2022 Q4 (USD B, %)



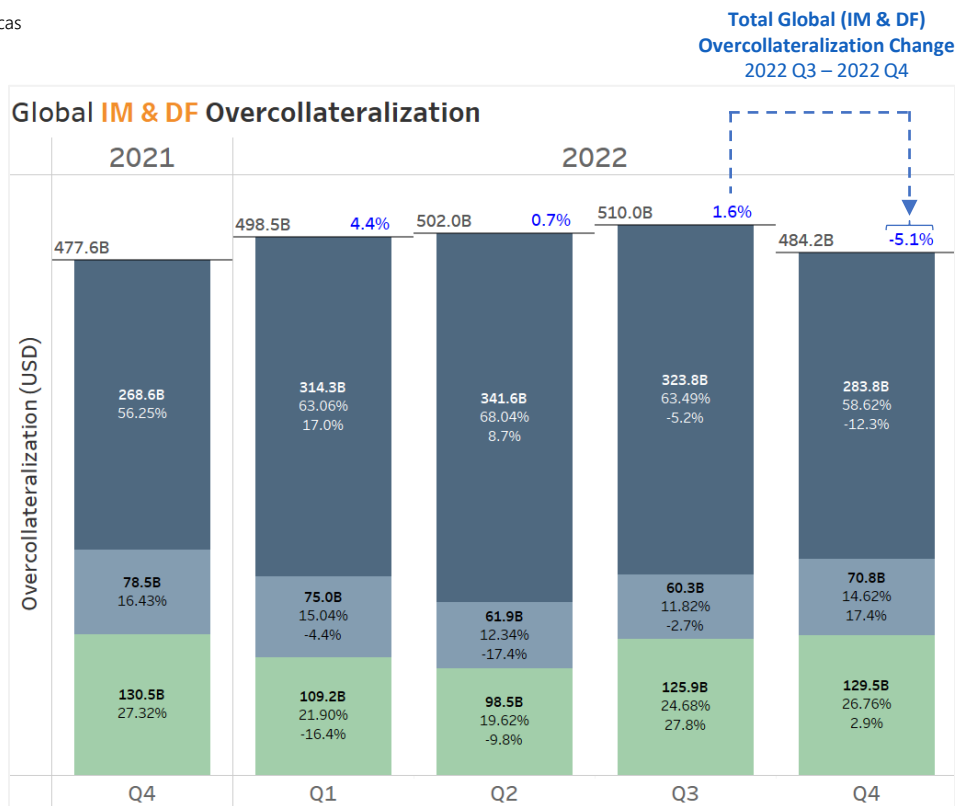
\*IM OC calculated as (6.2.15 Held Post-Haircut) - (6.1.1 Required). DF OC calculated as (4.3.15 Held Post-Haircut) - (4.1.4 Required). (Only Post-Haircut values used for Held values). OC: Overcollateralization.



**Total Overcollateralization\*** was USD 484.2B for 2022 Q4, representing a decrease of **-5.1%** from 2022 Q3.

**Global CCP Overcollateralization (IM & DF Held (PostHaircut) – IM & DF Required) Disclosures Total OC: (6.2.15 + 4.3.15) – (6.1.1 + 4.1.4) 2021 Q4 to 2022 Q4 (USD B, %)**

- EMEA
- APAC
- Americas



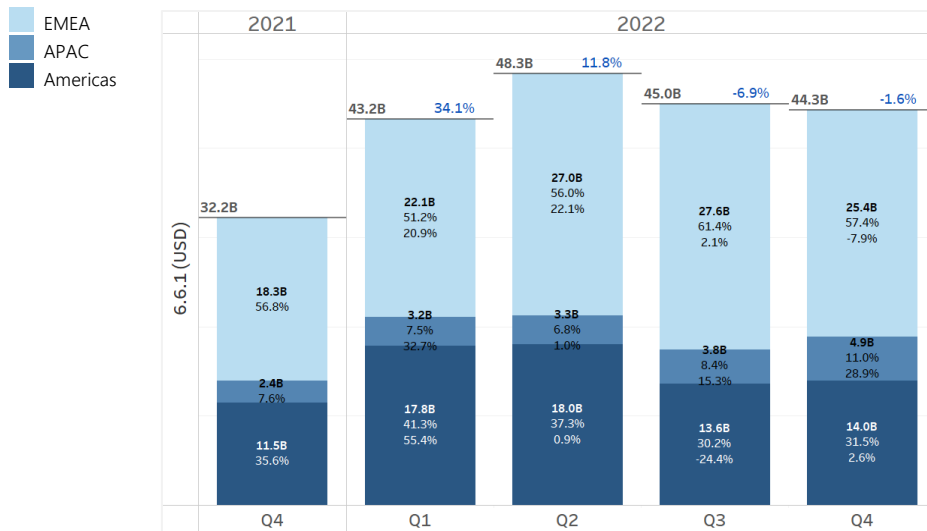
The chart above (*Global CCP Overcollateralization (IM and DF Held PostHaircut)*) indicates an overview of the IM and DF overcollateralization per region, reported at the quarter-end.

Global CCP Overcollateralization provides a sense of how a CCP is collateralized when comparing the held amounts against the required amounts. The Total Global CCP Overcollateralization calculation is equivalent to PQD disclosures (6.2.15+4.3.15) – (6.1.1+4.1.4).

\*Calculated as (Total IM and DF Held PostHaircut) minus (Total IM and DF Required) (Only Post-Haircut values used for Held values). Disclosures (6.2.15 + 4.3.15) – (6.1.1 + 4.1.4) = Total Overcollateralization OC: Overcollateralization

## Sum of the Average Total VM Paid to the CCP by participants each business day decreased by **-1.6%** in 2022 Q4.

### Sum of Average Total Global VM Paid to the CCP by participants each business day<sup>†</sup> Disclosure (6.6.1) 2021 Q4 to 2022 Q4 (USD B, %)

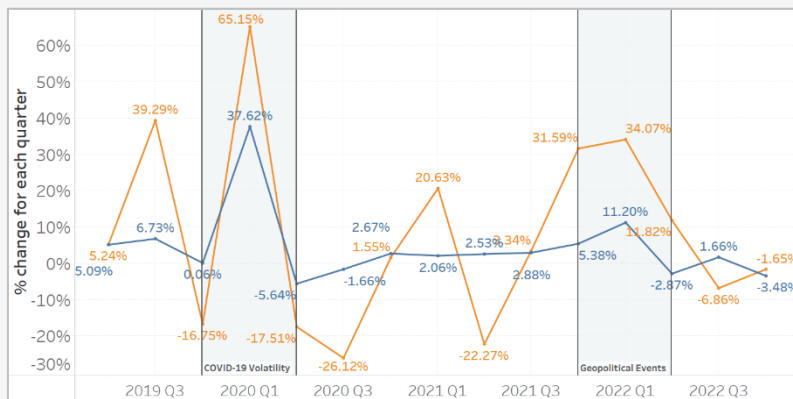


The chart opposite, (6.6.1: Sum of Average Total Global VM Paid to the CCP by Participants Each Business Day) indicates the sum total flow of the average variation margin through global CCPs split by region.

Variation margin payments are usually made daily (in cash) or intra day from the party whose position has reduced in value to the party which has increased in value.

These daily mark-to-market payments prevent the unnecessary build up of large losses over time and are one of the many different aspects of a CCP's lines of defence.

### (6.6.1) Total Δ% vs. (6.1.1) Total Δ% 6.6.1 vs. 6.1.1: Sum of Total Global VM Paid to the CCP by participants each business day vs. Total IM (Required), % Change QoQ<sup>†</sup> 2019 Q2 to 2022 Q4 (% change)



The chart opposite, 6.6.1 vs. 6.1.1: % Difference QoQ, provides a summary of the % change of the Total Global VM Paid to the CCP by participants each business day and the Total IM (Required).

It is important to note that during extreme volatility periods such as the CC\* or 2022 Q1 geopolitical turmoil, global volatility indices (e.g., VIX, VSTOXX and NIKKEI VI), have seen much higher increases in comparison. [Please see the CCP12 Annual Markets Review 2020 and 2021.](#)

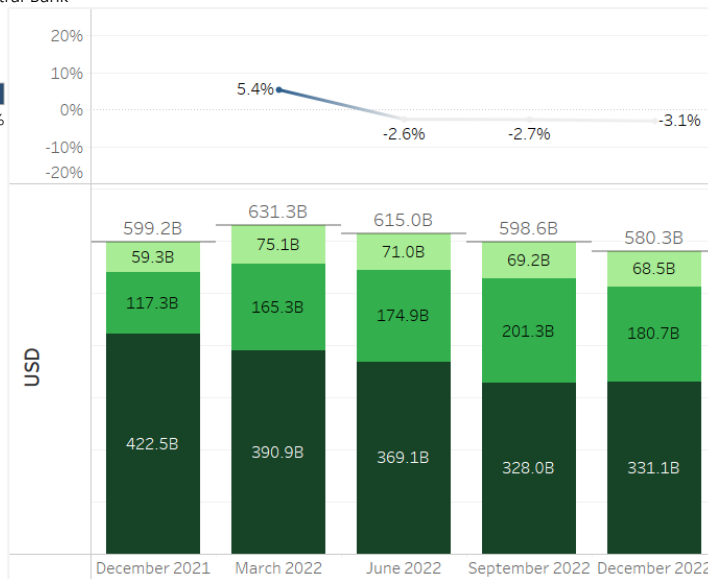
VM: Variation Margin  
\*CC: COVID-19 crisis in 2020 Q1. Global VM 6.6.1 increased 65.15%, represented by USD 40.9 B – please see the [CCP12 2020 Q1 PQD Newsflash](#).  
†Note: This is the sum total of the average VM paid out to the CCP by participants each business day across the respective regions. Not the average per CCP per region.

**Total Cash Held\*** for IM decreased by **-3.1%** for 2022 Q4. Majority of all cash resources have continued to be deposited at Central Banks†.

**6.2.1 – 6.2.4: Global CCP IM (Held) (PostHaircut), Cash Total 2021 Q4 to 2022 Q4 (USD B, % change QoQ)**

- (6.2.4) Unsecured at Commercial Banks
- (6.2.3) Secured Cash at Commercial Banks (Incl. Reverse Repos)
- (6.2.1 + 6.2.2) Central Bank†

Total % Change QoQ  
NegΔ% PosΔ%

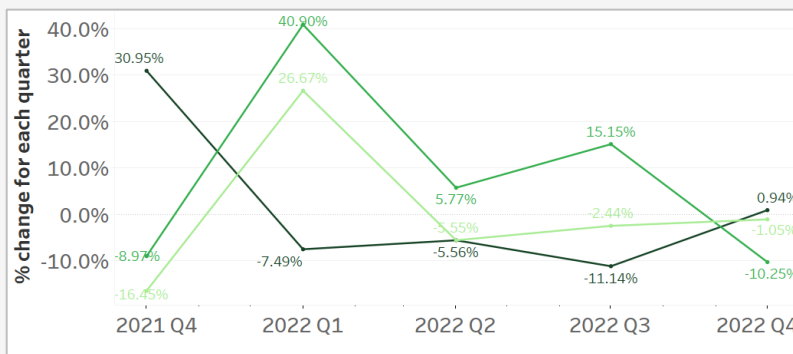


The chart opposite, (6.2.1 – 6.2.4: Global CCP IM (Held) (PostHaircut), Cash Total) provides an overview of the split of IM (Held) deposits at central banks and commercial banks under disclosures 6.2.1 – 6.2.4.

Central Bank accounts are widely agreed by the industry and regulatory community as the safest option for the safekeeping of CMs' margin. Many CCPs maintain large daily cash balances and although the CCPs continue to operate extensive collateral management functions to ensure the safety of margin that they receive, direct access to a central bank account would only enhance this security further.

- (6.2.4) Δ%
- (6.2.3) Δ%
- (6.2.1) Δ%

**6.2.1 – 6.2.4: Global Cash IM (Held) (PostHaircut), % Difference QoQ per segment 2021 Q4 to 2022 Q4 (% change)**



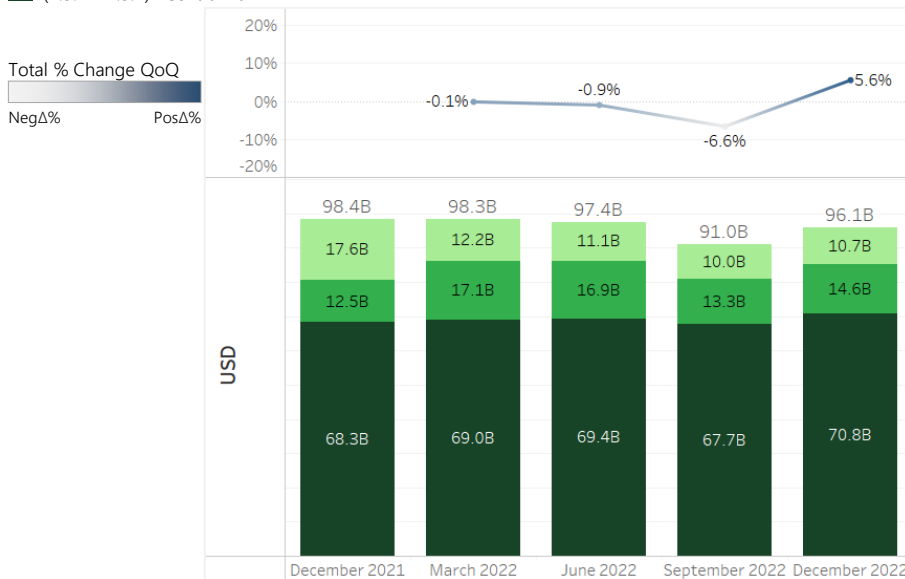
The chart opposite (6.2.1 – 6.2.4: Global Cash IM (Held) (PostHaircut), % Difference QoQ per segment) provides an overview of the quarterly change of IM (Held) deposits.

\*Figures as of quarter-end. Sum of IM Held across 6.2.1 – 6.2.14 is slightly lower than the Total IM Held Values for 6.2.15, due to: (1). DTCC have requested that 6.2.15 figures be equivalent to 4.3.15 figures, (2). For OCC 6.2.15 total > sum of 6.2.1 – 6.2.14. TCH provide the full breakdown of 6.2.15 split across 6.2.1 – 6.2.14 as of 2020 Q2.  
†Cash deposited at "Other Central Bank of Issue" (IM: 6.2.2, DF: 4.3.2) makes up <0.5% of the total cash collateral for IM and <0.5% for the DF. Therefore, "Central Bank of Issue" and "Other Central Bank" Cash deposits grouped together within charts.  
CC: COVID-19 Crisis

**Total Cash Held\*** for DF increased by **+5.6%** for 2022 Q4. Majority of all cash resources have continued to be deposited at Central Banks†.

**4.3.1 – 4.3.4: Global CCP DF (Held) (PostHaircut), Cash Total 2021 Q4 to 2022 Q4 (USD B, % change QoQ)**

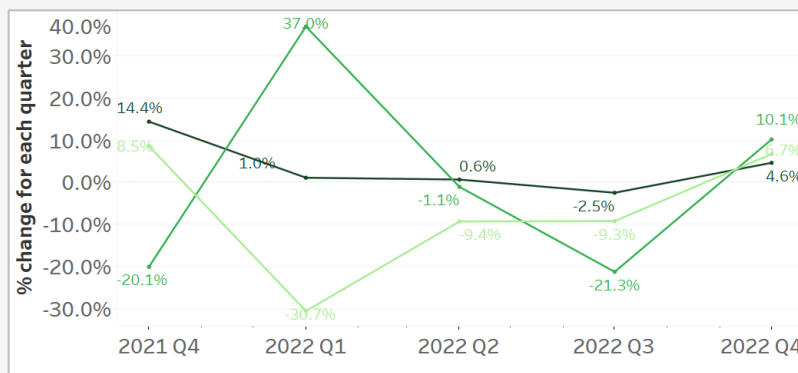
- (4.3.4) Unsecured at Commercial Banks
- (4.3.2) Secured Cash at Commercial Banks (Incl. Reverse Repos)
- (4.3.1 + 4.3.2) Central Bank†



The chart opposite, (4.3.1 – 4.3.4: Global CCP DF (Held) (PostHaircut), Cash Total) provides an overview of the split of DF (Held) deposits at central banks and commercial banks under disclosures 4.3.1 – 4.3.4.

- (4.3.4) Δ%
- (4.3.3) Δ%
- (4.3.1) Δ%

**4.3.1 – 4.3.4: Global Cash DF (Held), % Difference QoQ per segment 2021 Q4 to 2022 Q4 (% change)**

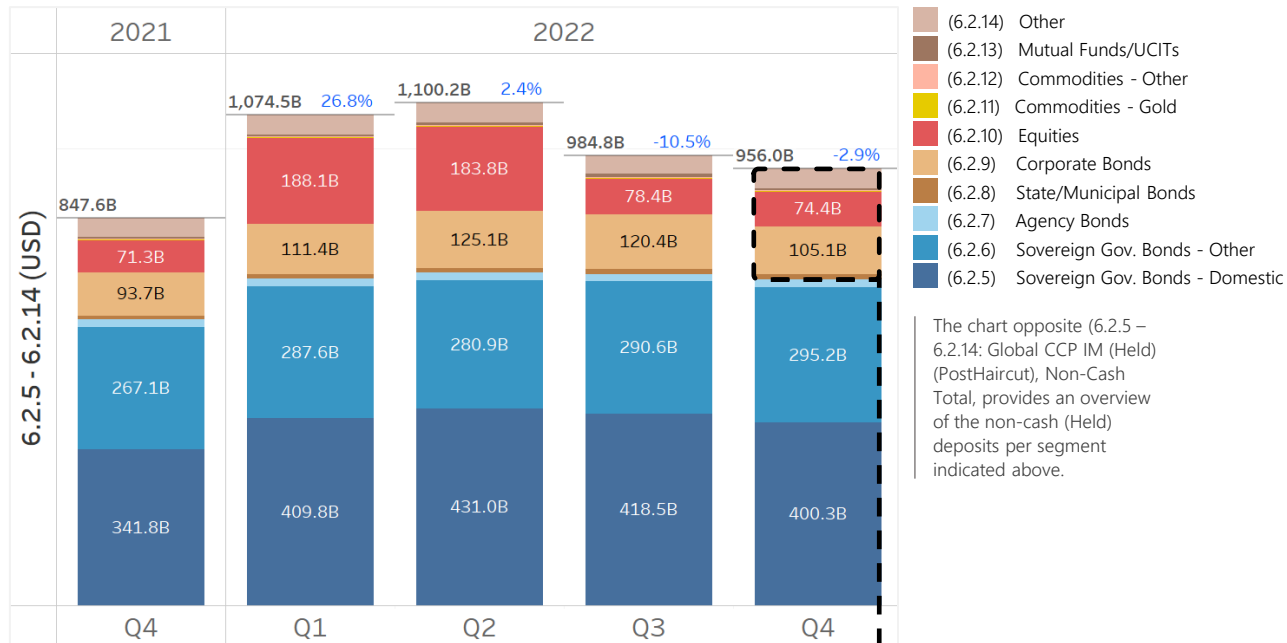


The chart opposite (4.3.1 – 4.3.4: Global Cash DF (Held), % Difference QoQ per segment) provides an overview of the quarterly change of DF (Held) deposits.

\*Figures as of quarter-end. Sum of IM Held across 6.2.1 – 6.2.14 is slightly lower than the Total IM Held Values for 6.2.15, due to: (1). DTCC have requested that 6.2.15 figures be equivalent to 4.3.15 figures, (2). For OCC 6.2.15 total > sum of 6.2.1 – 6.2.14. TCH provide the full breakdown of 6.2.15 split across 6.2.1 – 6.2.14 as of 2020 Q2.  
†Cash deposited at "Other Central Bank of Issue" (IM: 6.2.2, DF: 4.3.2) makes up <0.5% of the total cash collateral for IM and <0.5% for the DF. Therefore, "Central Bank of Issue" and "Other Central Bank" Cash deposits grouped together within charts.  
CC: COVID-19 Crisis

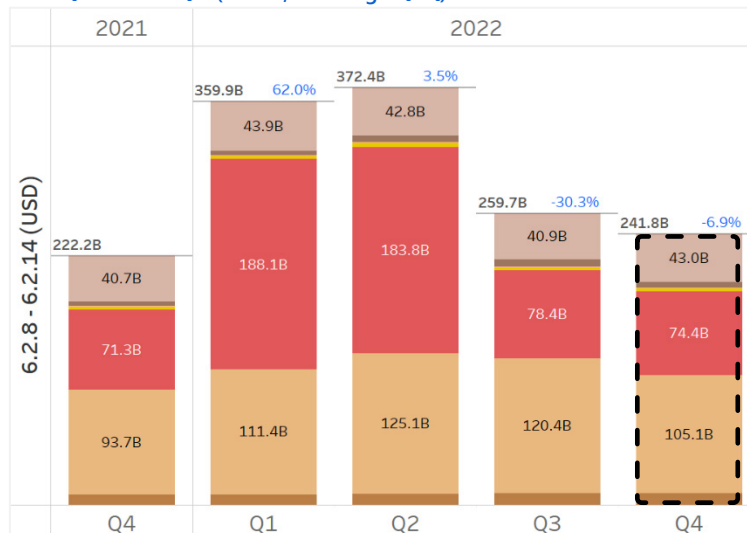
During 2022 Q4, total global **Non-Cash IM Held** decreased by **-2.9%**. The split across each segment has remained similar from the previous quarter.

**6.2.5 – 6.2.14: Global CCP IM (Held) (PostHaircut), Non-Cash Total 2021 Q4 to 2022 Q4 (USD B, % change QoQ)**



The chart opposite (6.2.5 – 6.2.14: Global CCP IM (Held) (PostHaircut), Non-Cash Total, provides an overview of the non-cash (Held) deposits per segment indicated above.

**6.2.8 – 6.2.14: Global CCP IM (Held) (PostHaircut), Non-Cash Total 2021 Q4 to 2022 Q4 (USD B, % change QoQ)**



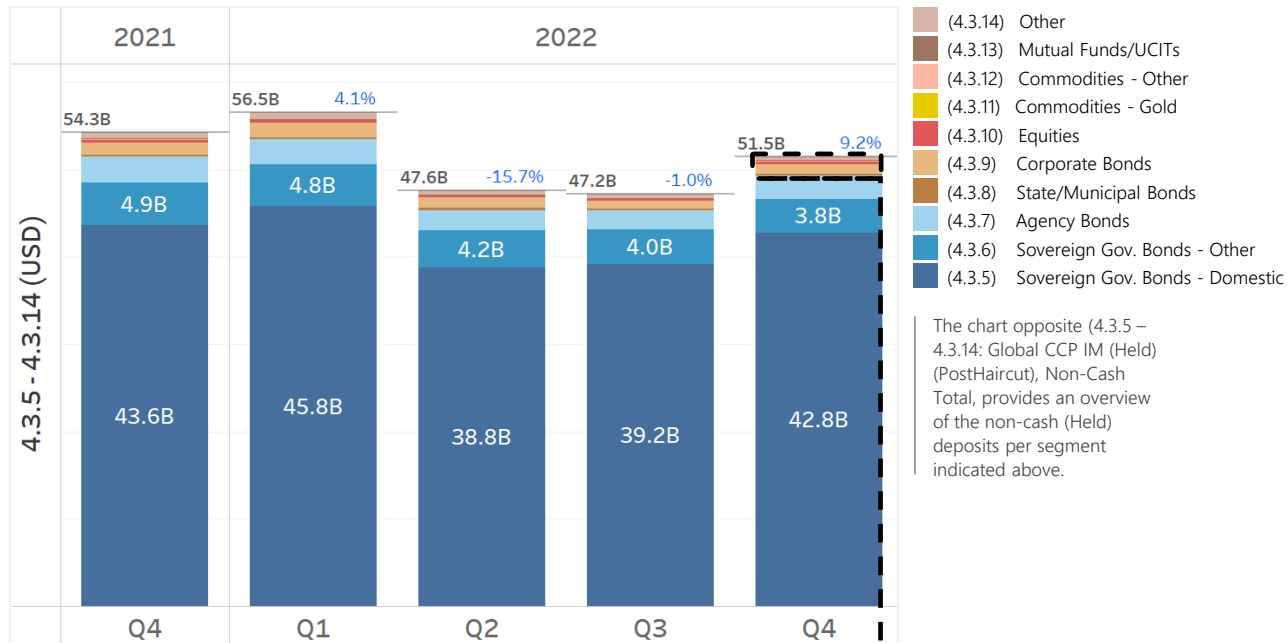
The chart opposite (6.2.8 – 6.2.14: Global CCP IM (Held) (PostHaircut), Non-Cash Total, provides a detailed view of the non-cash (Held) deposits for segments between 6.2.8 and 6.2.14.

\*Figures as of quarter end. Sum of IM Held across 6.2.1 – 6.2.14 is slightly lower than the Total IM Held Values for 6.2.15, due to 1). DTCC have requested that 6.2.15 figures be equivalent to 4.3.15 figures, and 2). OCC 6.2.15 total > sum of 6.2.1 – 6.2.14. TCH provide the full breakdown of 6.2.15 split across 6.2.1 – 6.2.14 as of 2020 Q2.  
 †Disclosures 4.3.8 – 4.3.14 constitute on average <1.5% of total non-cash collateral per quarter.



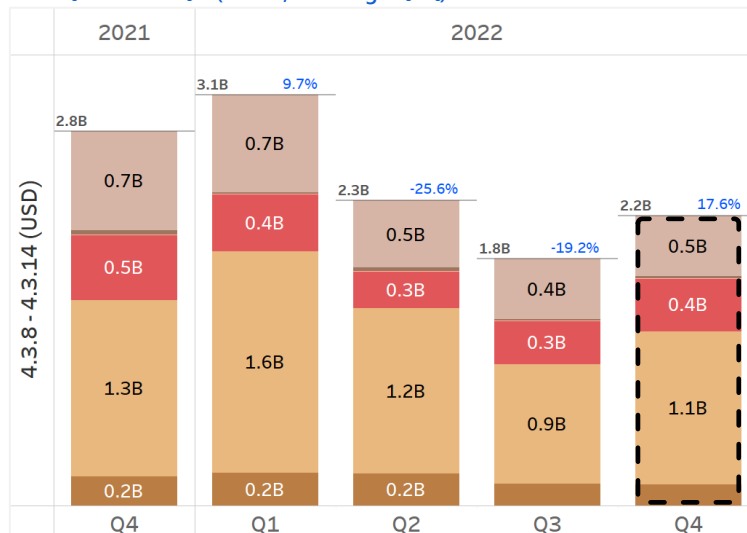
During 2022 Q4, total global **Non-Cash DF Held** increased by **+9.2%**. The split across each segment has remained similar from the previous quarter.

**4.3.5 – 4.3.14: Global CCP DF (Held) (PostHaircut), Non-Cash Total 2021 Q4 to 2022 Q4 (USD B, % change QoQ)**



The chart opposite (4.3.5 – 4.3.14: Global CCP IM (Held) (PostHaircut), Non-Cash Total, provides an overview of the non-cash (Held) deposits per segment indicated above.

**4.3.8 – 4.3.14: Global CCP DF (Held) (PostHaircut), Non-Cash Total 2021 Q4 to 2022 Q4 (USD B, % change QoQ)**



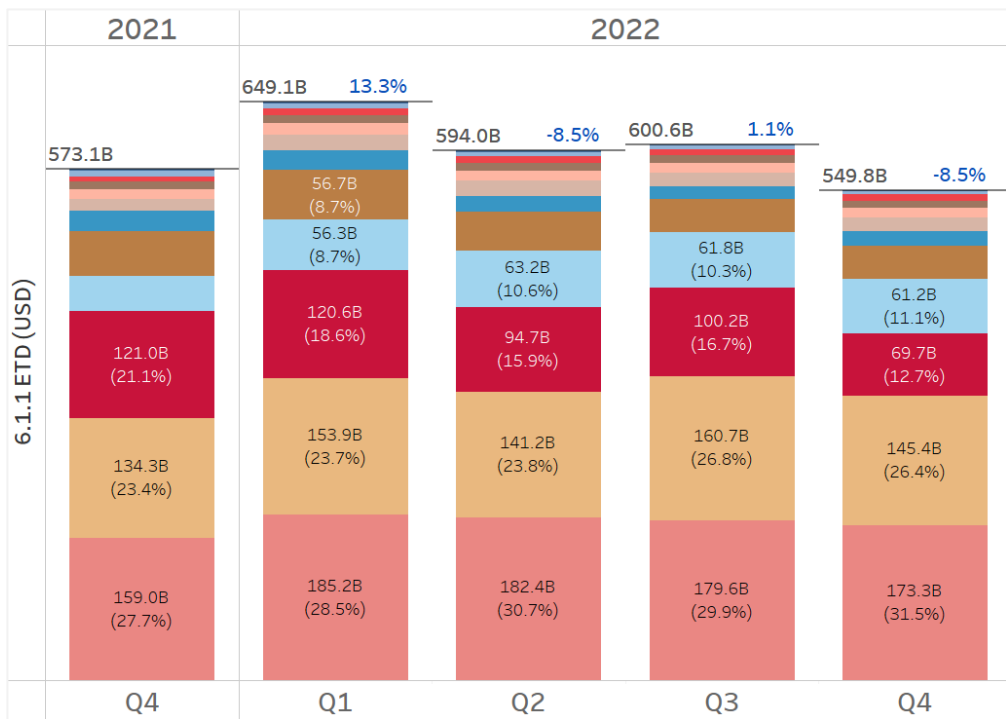
The chart opposite (4.3.8 – 4.3.14: Global CCP IM (Held) (PostHaircut), Non-Cash Total, provides a detailed view of the non-cash (Held) deposits for segments between 6.2.8 and 6.2.14.

\*Figures as of quarter end. Sum of IM Held across 6.2.1 – 6.2.14 is slightly lower than the Total IM Held Values for 6.2.15, due to 1). DTCC have requested that 6.2.15 figures be equivalent to 4.3.15 figures, and 2). OCC 6.2.15 total > sum of 6.2.1 – 6.2.14. TCH provide the full breakdown of 6.2.15 split across 6.2.1 – 6.2.14 as of 2020 Q2.  
†Disclosures 4.3.8 – 4.3.14 constitute on average <1.5% of total non-cash collateral per quarter.

For 2022 Q4 the IM required for ETDs across the following selected 12 CCPs decreased by **-8.5%**. Proportion of IM across each CCP has remained consistent QoQ.

**Global CCP IM (Required) Collateral for ETDs across selected CCPs Disclosure (6.1.1)**  
2021 Q4 to 2022 Q4 (USD B, % change QoQ)

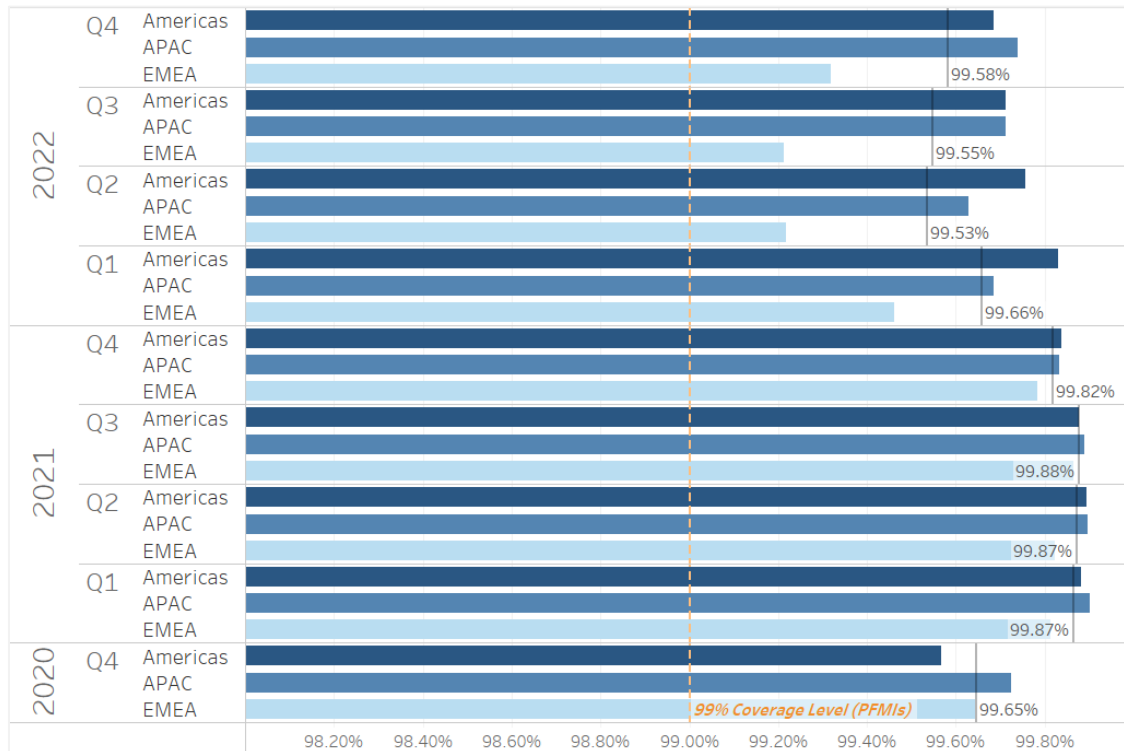
- HKEX\_SEOCH
- ASXCLF
- HKEX\_HKCC
- SGX\_DC
- JSCC
- LCHLTD
- ICUS
- LCHSA
- ECAG
- OCC
- ICEU
- CME



The chart above (6.1.1: Global CCP IM (Required) Collateral for ETDs across selected CCPs) provides a summary of the IM required for ETDs across a number of selected CCPs chosen for a global geographical representation.

# Results of backtesting of initial margin (ACL - Achieved Coverage Level) reached 99.58% (on average) across all regions for 2022 Q4, higher than the previous quarter.

Results of backtesting of initial margin – ACL\*  
Disclosure (6.5.3)  
2020 Q4 to 2022 Q4 (%)



The chart above (Results of backtesting of Initial Margin – Achieved Coverage Level). Backtesting is an important technique that a CCP utilizes to ensure that its initial margin model is performing as expected and that the assumptions within the model are valid. A CCP should assess its initial margin coverage by performing an ex-post comparison of observed profit and loss moves of a given portfolio against the initial margin collected.

According to the [Principles for Financial Market Infrastructures](#), a 99.00% coverage of backtesting is used as a benchmark to assess the efficiency of the initial margin model, however, a CCP may use a higher (percentile) benchmark. As can be seen from the above metrics, global CCPs on average have achieved above 99.00% in all instances from recent years.

For further information, please see the [CCP12 White Paper – Primer on Initial Margin](#).

\*Average has been taken across each CCP in each respective region.

# CCPs reported the same availability to core clearing systems of 99.97% over the previous 12-month period.\*

## Availability, Failures and Recovery Time Objectives 2022 Q4

CCPs report the quantity and duration of operational failures affecting their core clearing systems over the previous 12-months on a quarterly basis:

- **Core Systems:** Within clearing, systems enable the acceptance and novation of trades, and provide the calculation of margin and settlement obligations;
- **Loss of Availability:** An incident that results in an interruption to the CCP’s ability to perform its own functions in relation to trade acceptance and novation, or calculation of margin and settlement obligations. An incident that compromises the CCP’s ability to correctly perform the aforementioned functions is also considered a ‘loss of availability’, even if there is no actual outage. Failure to a back-up site without interruption to services would not count as a loss of availability.

### Disclosure (17.2):

The average actual core clearing system availability over the previous twelve-month period (January 1, 2022, through December 31, 2022) across all 54 CCP PQDs was: **99.97%**

### Disclosure (17.4):

#### 54 CCP PQDs representing 33 CCP12 Members & 2 Non-Members<sup>†</sup>

|   |         |
|---|---------|
| 1 CCP observes a target recovery time of within:                    | 20 mins |
| 1 CCPs observe a target recovery time of within:                    | 45 mins |
| 3 CCP observe a target recovery time of within:                     | 1 hr    |
| <b>47 CCPs observe the standard target recovery time of within:</b> | 2 hrs   |
| 2 CCPs observe a target recovery time of within:                    | 4 hrs   |

According to the [Principles for Financial Market Infrastructures](#), the objectives of a CCP’s business continuity plan should detail the system’s target recovery time (“TRT”) and recovery point information. Based on the PFMI’s, a CCP should aim to be able to resume operations within two hours following a disruptive event(s); however, backup systems should preferably commence processing immediately upon such a disruption.

As seen from the above table, over 94% of global CCPs have a target recovery time set as two hours or shorter; with only 3 CCPs observing a slightly longer TRT based on their respective regulatory requirements.

\*For 2022 Q3, the average availability of core clearing systems over the period (October 1, 2021, through September 30, 2022) across all CCPs was 99.97%.

†All figures are based on the respective CCP’s regulatory requirements in their local jurisdiction. CC&G and NCC data is incorporated as non-CCP12 members.

## CCP12 Member List

| CCP Mnemonic | CCP12 Member | Region   | Country                  | CCP Name   |
|--------------|--------------|----------|--------------------------|--|
| ACSA         | ACSA         | Americas | Argentina                | <a href="#">Argentina Clearing y Registro S.A.</a>   |
| ASXCL        | ASX          | APAC     | Australia                | <a href="#">Australia Securities Exchange Clear</a>  |
| ASXCLF       | ASX          | APAC     | Australia                | <a href="#">Australia Securities Exchange Clear Futures</a>  |
| B3           | B3           | Americas | Brazil                   | <a href="#">Brasil, Bolsa, Balcão</a>  |
| BMDC         | BMAL         | APAC     | Malaysia                 | <a href="#">Bursa Malaysia Derivatives Clearing</a>  |
| BMSC         | BMAL         | APAC     | Malaysia                 | <a href="#">Bursa Malaysia Securities Clearing</a>   |
| CCIL         | CCIL         | APAC     | India                    | <a href="#">The Clearing Corporation of India Ltd.</a>   |
| CME          | CME          | Americas | United States of America | <a href="#">Chicago Mercantile Exchange</a>  |
| ComDer       | ComDer       | Americas | Chile                    | <a href="#">ComDer Contraparte Central S.A.</a>  |
| CRCC         | CRCC         | Americas | Colombia                 | <a href="#">Cámara de Riesgo Central de Contraparte S.A.</a>   |
| DCCC         | DCCC         | EMEA     | United Arab Emirates     | <a href="#">The Dubai Commodities Clearing Corporation</a>   |
| DTCC_GSD     | DTCC         | Americas | United States of America | <a href="#">Depository Trust and Clearing Corporation – Government Securities Division Solutions</a> |
| DTCC_MBSD    | DTCC         | Americas | United States of America | <a href="#">Depository Trust and Clearing Corporation – Mortgage-Backed Securities Division</a>      |
| DTCC_NSCC    | DTCC         | Americas | United States of America | <a href="#">Depository Trust and Clearing Corporation – National Securities Clearing Corporation</a> |
| ECAG         | ECAG         | EMEA     | Germany                  | <a href="#">Eurex Clearing Group</a>   |
| ECC          | ECAG         | EMEA     | Germany                  | <a href="#">European Commodity Clearing</a>  |
| NCL          | ECAG         | Americas | United States of America | <a href="#">Nodal Clear</a>  |
| HKEX_HKCC    | HKEX         | APAC     | Hong Kong                | <a href="#">HKFE Clearing Corporation Limited</a>  |
| HKEX_HKSCC   | HKEX         | APAC     | Hong Kong                | <a href="#">Hong Kong Securities Clearing Company Limited</a>  |
| HKEX_LME     | HKEX         | EMEA     | United Kingdom           | <a href="#">The London Metal Exchange</a>  |
| HKEX_OTCC    | HKEX         | APAC     | Hong Kong                | <a href="#">OTC Clearing Hong Kong Limited</a>   |
| HKEX_SEOCH   | HKEX         | APAC     | Hong Kong                | <a href="#">The SEHK Options Clearing House Limited</a>  |
| ICC          | ICE          | Americas | United States of America | <a href="#">ICE Clear Credit</a>   |
| ICEU         | ICE          | EMEA     | United Kingdom           | <a href="#">ICE Clear Europe</a>   |
| ICNGX        | ICE          | Americas | Canada                   | <a href="#">ICE Clear Canada</a>   |
| ICNL         | ICE          | EMEA     | Netherlands              | <a href="#">ICE Clear Netherlands</a>  |
| ICSG         | ICE          | APAC     | Singapore                | <a href="#">ICE Clear Singapore</a>  |
| ICUS         | ICE          | Americas | United States of America | <a href="#">ICE Clear US</a>   |
| IDCLEAR      | ID Clear     | APAC     | Indonesia                | <a href="#">ID Clear</a>   |
| IRGIT        | IRGIT        | EMEA     | Poland                   | <a href="#">Izba Rozliczeniowa Gield Towarowych S.A. (IRGIT, Clearing House)</a>                     |
| JSCC         | JSCC         | APAC     | Japan                    | <a href="#">Japan Securities Clearing Corporation</a>  |
| JSE          | JSE          | EMEA     | South Africa             | <a href="#">Johannesburg Stock Exchange</a>  |
| KDPW         | KDPW         | EMEA     | Poland                   | <a href="#">KDPW CCP</a>   |
| KRX          | KRX          | APAC     | South Korea              | <a href="#">Korea Exchange</a>   |
| LCHLTD       | LSEG         | EMEA     | United Kingdom           | <a href="#">London Clearing House Ltd.</a>   |
| LCHSA        | LSEG         | EMEA     | France                   | <a href="#">London Clearing House S.A.</a>   |
| MCXCCL       | MCXCCL       | APAC     | India                    | <a href="#">Multi Commodity Exchange Clearing Corporation Limited</a>                                |
| MGEX         | MGEX         | Americas | United States of America | <a href="#">Minneapolis Grain Exchange</a>   |
| MUQASSA      | MUQASSA      | EMEA     | Saudi Arabia             | <a href="#">Securities Clearing Center Company (Muqassa)</a>   |
| NASDAQ       | NASDAQ       | EMEA     | Sweden                   | <a href="#">Nasdaq Clearing</a>  |
| NCC          | NON-MEMBER   | EMEA     | Russia                   | <a href="#">Central Counterparty National Clearing Centre</a>  |
| CCG          | NON-MEMBER   | EMEA     | Italy                    | <a href="#">Cassa di Compensazione e Garanzia S.p.A.</a>   |
| NSE          | NSE          | APAC     | India                    | <a href="#">NSE Clearing Limited</a>   |
| NZX          | NZX          | APAC     | New Zealand              | <a href="#">New Zealand Exchange</a>   |
| OCC          | OCC          | Americas | United States of America | <a href="#">The Options Clearing Corporation</a>   |
| SGX_CDP      | SGX          | APAC     | Singapore                | <a href="#">Singapore Exchange (Central Depository (Pte) Limited)</a>                                |
| SGX_DC       | SGX          | APAC     | Singapore                | <a href="#">Singapore Exchange (Derivatives Clearing)</a>  |
| SHCH         | SHCH         | APAC     | China                    | <a href="#">Shanghai Clearing House</a>  |
| TAIFEX       | TAIFEX       | APAC     | Taiwan                   | <a href="#">Taiwan Futures Exchange (Taifex)</a>   |
| TAKAS        | TAKAS        | EMEA     | Turkey                   | <a href="#">Takasbank</a>  |
| TCH          | TCH          | APAC     | Thailand                 | <a href="#">Thailand Clearing House Co. Ltd.</a>   |
| CDS          | TMX          | Americas | Canada                   | <a href="#">TMX Group - Canadian Depository for Securities Limited (CDS Ltd.)</a>                    |
| CDCC         | TMX          | Americas | Canada                   | <a href="#">TMX Group - Canadian Derivatives Clearing Corporation (CDCC)</a>                         |
| VSD          | VSD          | APAC     | Vietnam                  | <a href="#">Vietnam Securities Depository</a>  |



# About CCP12

CCP12 is the global association for CCPs, representing 41 members who operate over 60 individual central counterparties (CCPs) globally across the Americas, EMEA and the Asia-Pacific region. CCP12 promotes effective, practical, and appropriate risk management and operational standards for CCPs to ensure the safety and efficiency of the financial markets it represents.

CCP12 leads and assesses global regulatory and industry initiatives that concern CCPs to form consensus views, while also actively engaging with regulatory agencies and industry constituents through consultation responses, forum discussions and position papers.

For more information, please contact the office by e-mail at [office@ccp12.org](mailto:office@ccp12.org) or through our website by visiting [www.ccp12.org](http://www.ccp12.org).



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## CCP12 Members



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