



The Global Association of Central Counterparties

PUBLIC QUANTITATIVE DISCLOSURE

PQD QUARTERLY TRENDS REPORT

2023 Q1 DATA



Jun-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 2023 Q1

- European Commodity Clearing ([ECC](#)) began publishing PQDs in the standardized CCP12 PQD Template.

KEY STATISTICS FOR 2023 Q1 (USD)*

54 CCPs across Americas (16), APAC (22), and EMEA (16). Equivalent to 33 CCP12 members included in this quarter's collation[†]:

6.1.1 GLOBAL IM (REQUIRED)

1,263B

↑ 0.2%

4.1.4 GLOBAL DF (REQUIRED)

133B

↑ 6.8%

6.6.1 GLOBAL VM FLOW

41B

↓ -7.0%

6.2.15 GLOBAL IM (HELD)

1,713B

↓ -0.5%

4.3.15 GLOBAL DF (HELD)

152B

↑ 3.7%

TOTAL (IM & DF) GLOBAL OVERCOLLATERALIZATION[‡]

470B

↓ -2.9%

% change from the previous quarter

For any questions, please get in touch: question.pqd@ccp12.org

*Data has been normalized to USD equivalent, based on a conversation from quarter-end FX rates provided by the ECB. All figures have been rounded up to the nearest billion in charts and tables.

†CC&G and NCC PQD figures are incorporated as non-CCP12 members. CC&G, ECC, NSE: 2022Q4 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.

‡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 Post-Haircut values used for Held values).

Commentary for the quarter 2023 Q1

Below are a few key market developments which took place in the first quarter of 2023:

- 2023 Q1 brought on further volatility across the capital markets following the failure of US lender Silicon Valley Bank. Inflation remained elevated at uncomfortably high levels which subsequently led to further interest rate hikes from the Federal Reserve. This all contributed to further stresses in the banking system which subsequently resulted in the closure of three regional US banks, coupled with the takeover of Credit Suisse by UBS, government deposit backstops, and a new special lending facility for US banks by the Federal Reserve Board.¹
- Central banks remained cautious in their communications throughout 2023 Q1 with most central banks slowing the pace of tightening, including the Federal Reserve (“Fed”) and the ECB. A selected few Emerging Market Economy (“EME”) central banks, which had started their tightening earlier than others, paused their stance. The Fed announced two rate hikes in the quarter of 25bps each, the Bank of England (BoE) approved two rate hikes of 50bps and 25bps, respectively. The ECB remained hawkish in comparison and increased rates twice in 50bps increments. The Bank of Canada (“BoC”) kept interest rates the same, while the Bank of Japan (BoJ) made no further adjustments to its yield curve control (“YCC”) policy, despite core inflation rising further.²
- The global government bond markets remained sensitive to market growth forecasts, rising inflation and the various international policy responses from respective jurisdictions. Policymakers overall provided no evidence that further easing was planned, given the growing concerns of elevated inflation – with core inflation substantially above the target range – and upside risks that persisted on the back of generally tighter labour markets. In Japan, pressures remained in fixed income markets, as investors reassessed the YCC policy. Broad-based and recurrent open market operations by the BoJ smoothed market functioning and controlled the upward pressure on bond yields.²
- Equity markets remained on the road to recovery compared to their 2022 losses, even though there was a downward correction in late-February 2023. Chinese equities were boosted by the sudden end of the zero-Covid policy. EME equities fluctuated with the changing US dollar strength and increased performance against global benchmarks to rise back to their pre-2022 levels. EME currencies recouped more than half of their 2022 losses against the dollar. Among advanced economies (“AE”), European equities stood out with continuously robust performance despite the banking turmoil.²
- Global volume of ETDs reached 10.6 billion contracts in March, which was the highest level to date. This was a 54.2% increase year-over-year (YoY). Options volumes reached 7.7 billion contracts, an increase of more than 83% YoY. Global trading of futures reached 2.9 billion contracts in March, up 8% YoY.³

¹ [Nasdaq First Quarter 2023 Review and Outlook](#); [Schroders Quarterly Markets Review](#)

² [BIS Quarterly Review, March 2023](#); [Bloomberg](#)

³ [FIA ETD Volumes Data](#)

Headline Statistics of the Public Quantitative Disclosures

2023 Q1

Global CCP Margin* (USD B)

Global Initial Margin & Default Fund (Required):

Total Global IM Required (6.1.1)	1,263
Total Global DF Required (4.1.4)	133
Total Global CCP Collateral Required (6.1.1 + 4.1.4)	1,396

Global IM & DF Held (PostHaircut):

Total Global IM Held (PostHaircut) (6.2.15)	1,713
Total Global DF Held (PostHaircut) (4.3.15)	152
Total Global CCP Collateral Held (PostHaircut) (6.2.15 + 4.3.15)	1,865

Global Variation Margin (VM)

Sum of Total Global Average Daily VM Paid to the CCP by participants each business day (6.6.1)	41
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Global Overcollateralization (OC)[†]

Total Global IM Overcollateralization	450
Total Global DF Overcollateralization	20
Total Global Overcollateralization	470

Total Global CCP Collateral (Held) (PostHaircut) in form of[‡]:

	Disclosure	Initial Margin	Disclosure	Default Fund
Cash				
<i>At Central Bank</i>	(6.2.1 + 6.2.2)	17.2%	(4.3.1 + 4.3.2)	45.7%
<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	3.9%	4.3.4	5.5%
Non-Cash				
<i>Sovereign Gov Bonds - Domestic</i>	6.2.5	25.3%	4.3.5	32.2%
<i>Sovereign Gov Bonds - Foreign</i>	6.2.6	18.4%	4.3.6	2.5%
<i>Agency Bonds</i>	6.2.7	1.4%	4.3.7	2.8%
<i>State/Municipal Bonds</i>	6.2.8	0.6%	4.3.8	0.2%
<i>Corporate Bonds</i>	6.2.9	6.0%	4.3.9	0.8%
<i>Equities</i>	6.2.10	4.3%	4.3.10	0.2%
<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	2.6%	4.3.14	0.3%

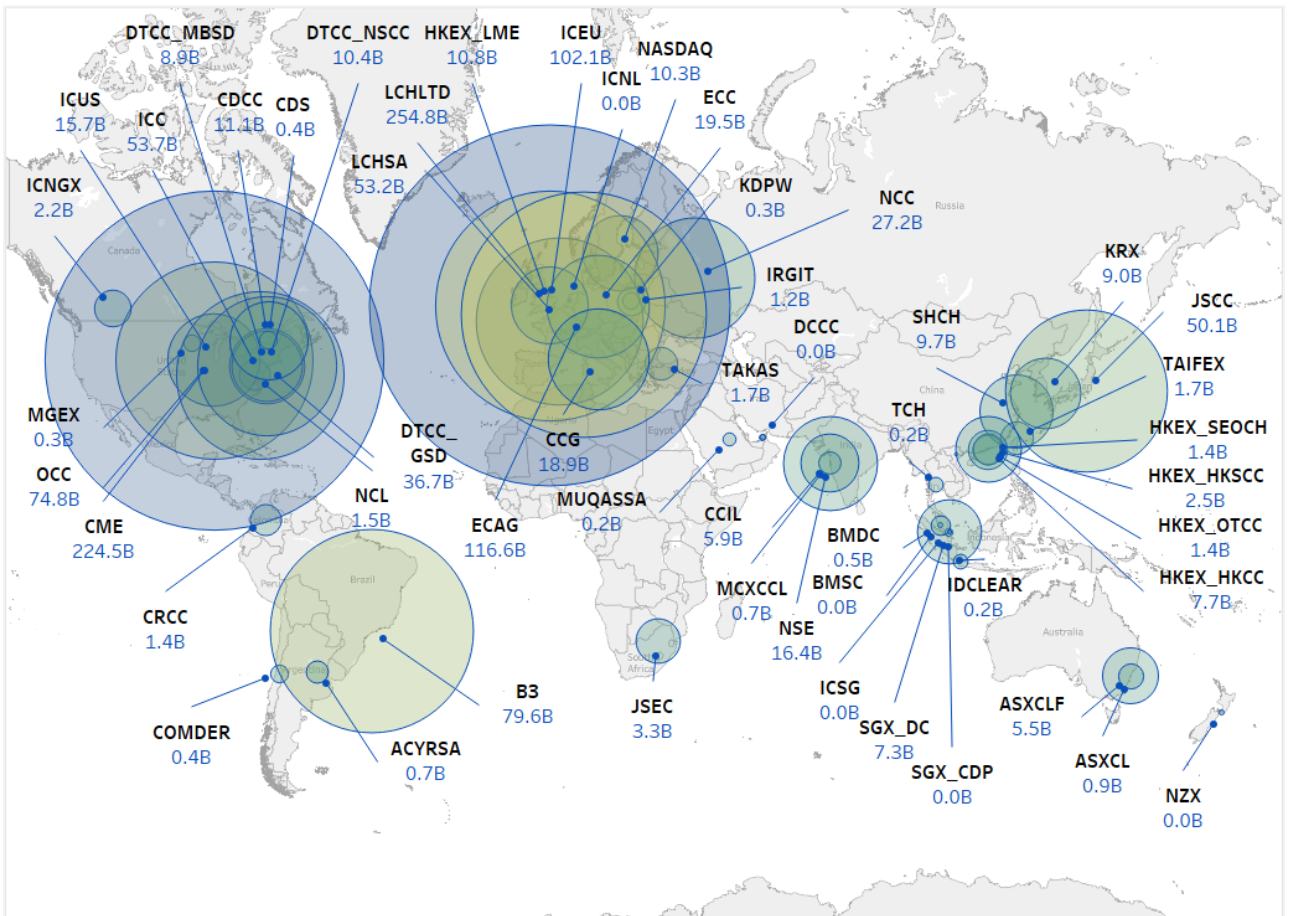
*Figures have been rounded to the nearest whole number, therefore, may be a slight difference in the Total Overcollateralization figure in the region of ±USD 1 billion.
[†]Calculated as (Total IM and DF Held (PostHaircut) minus (Total IM and DF Required) Disclosures (6.2.15 + 4.3.15) - (6.1.1 + 4.1.4) = Total Overcollateralization. (Only Post-Haircut values used for Held values).
[‡]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

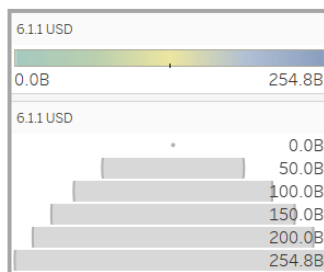
A collection of maps each quarter providing an overview of the global distribution of Initial Margin, Default Fund and Variation Margin from a global perspective.

2023 Q1

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):

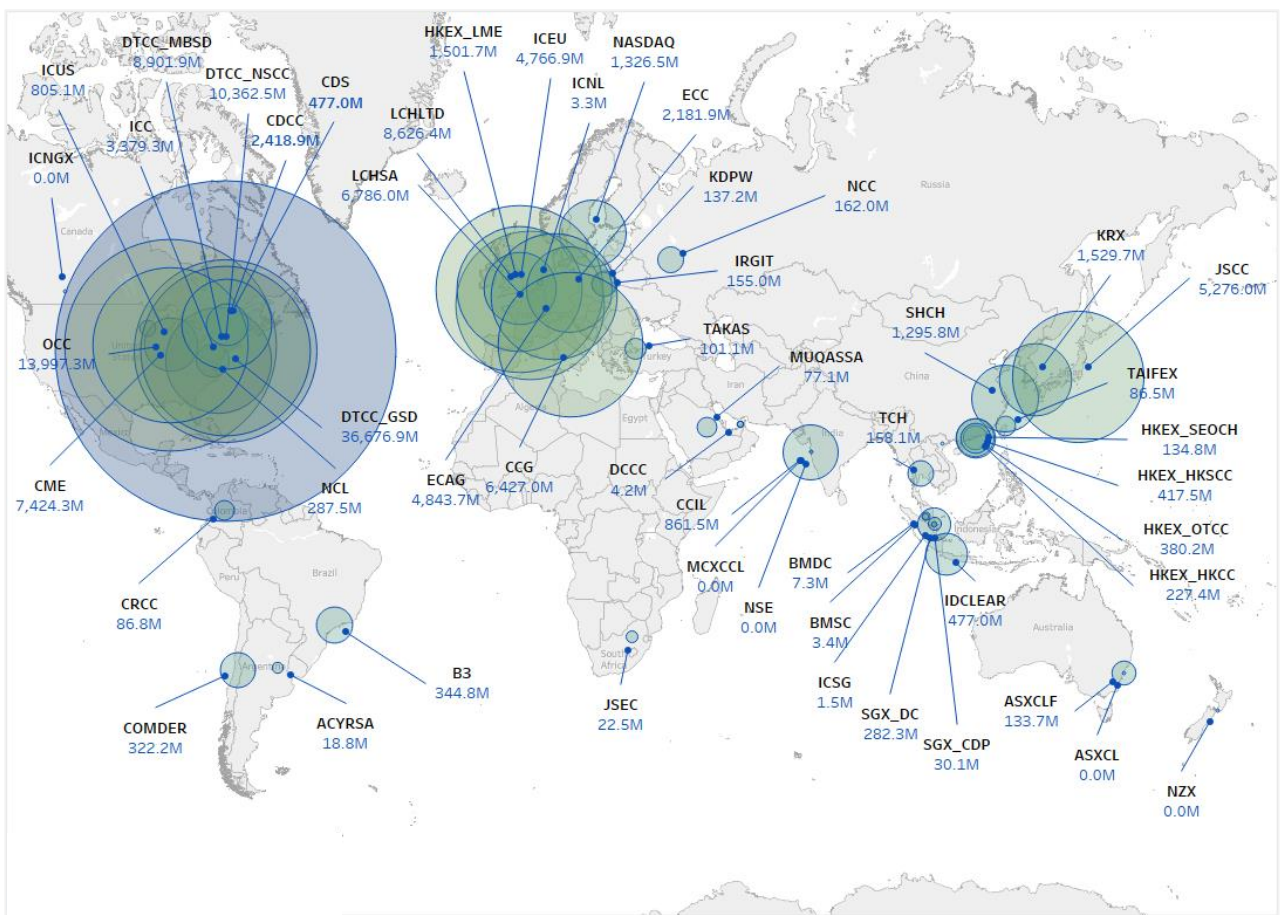
CCP	6.1.1 USD
ICNL	0.00
ICSG	471,369.14
BMSC	5,367,373.03
NZX	5,444,516.80
DBCL	9,536,336.36
DCCC	14,804,642.00
SGX_CDP	37,671,476.73

Collateral View

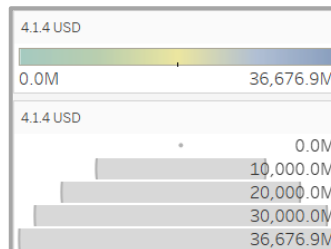
A collection of maps each quarter providing an overview of the global distribution of Initial Margin, Default Fund and Variation Margin from a global perspective.

2023 Q1

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.

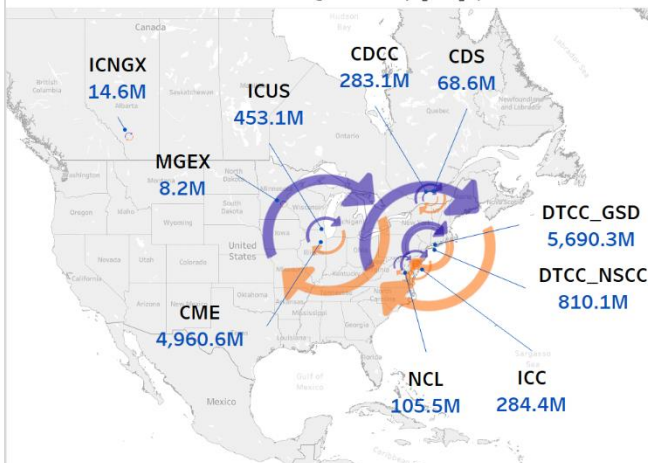
Collateral View

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.

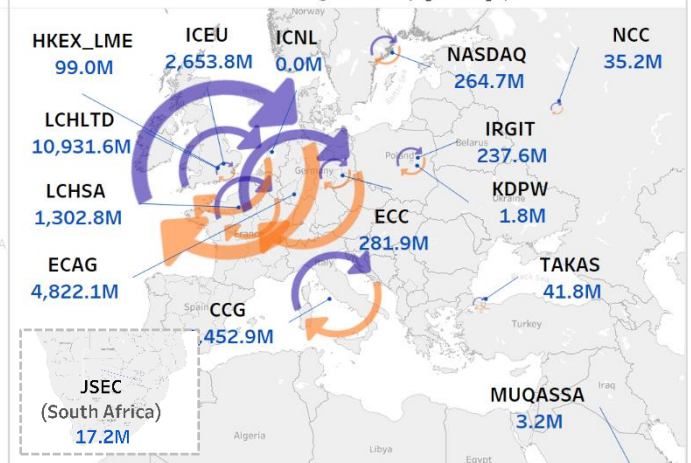
2023 Q1

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



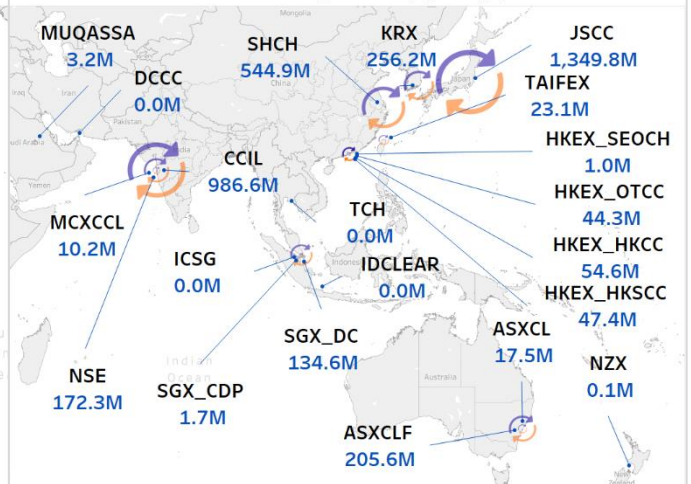
6.6.1: Sum of Total Global VM, Regional Map [EMEA], per CCP



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.

6.6.1 values < USD 100,000 (not seen from map):	
CCP	6.6.1 USD
ICNL	0.00
TCH	0.00
ICSG	7,354.17
IDCLEAR	49,503.19
DCCC	49,687.96

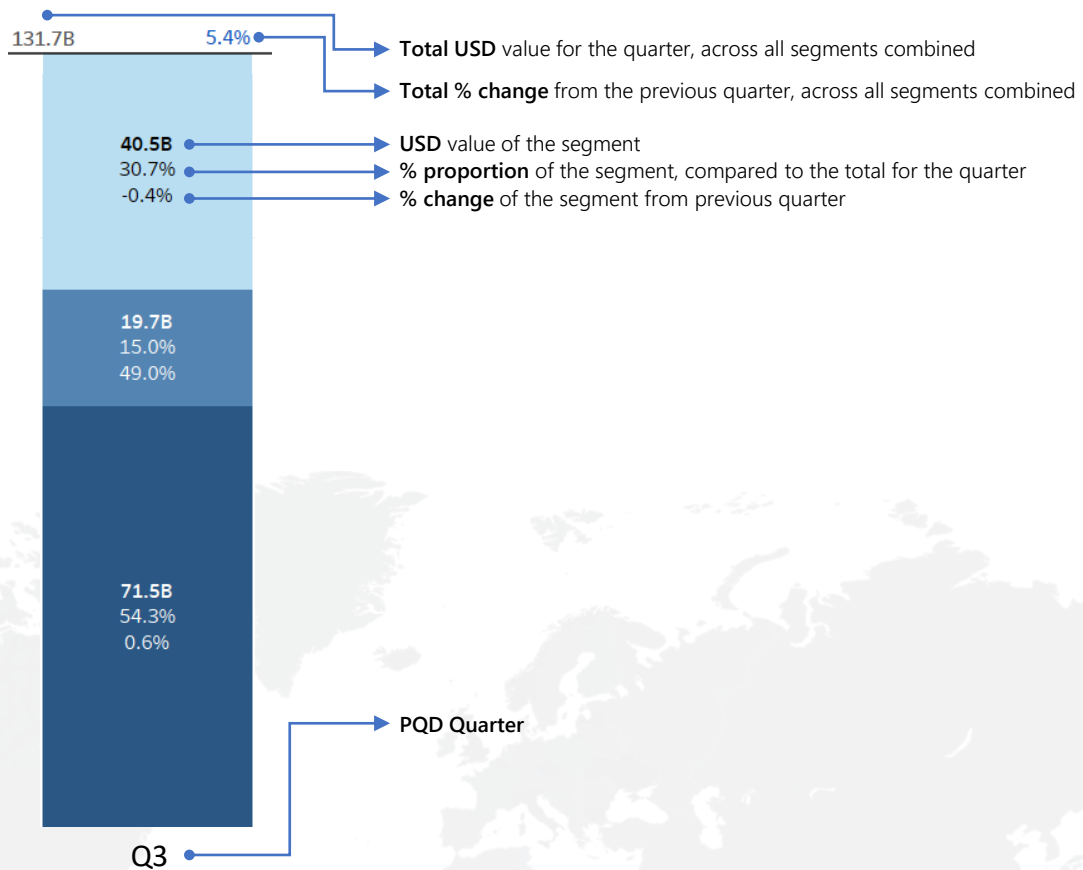
*CCPs collect VM from clearing members for losses on positions and pay the gains with finality to those clearing members with positions that have a net increase in value based on marked-to-market prices. VM is not paid directly from any specific clearing member or customer counterparty to another as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

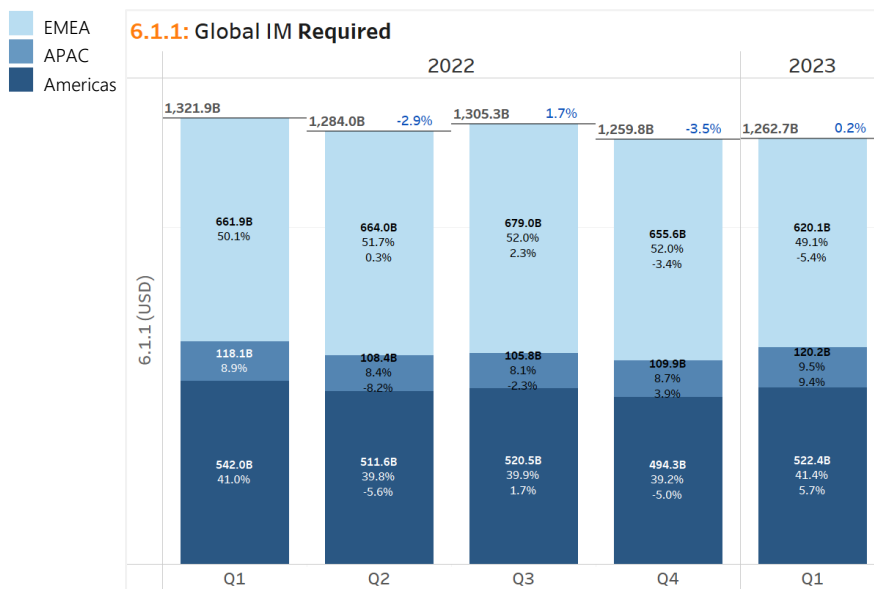
Bar Chart Key:

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:



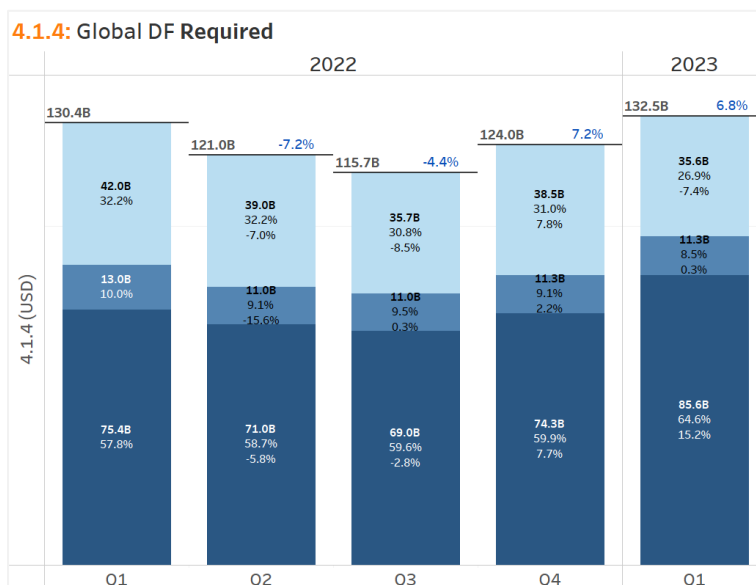
Total IM Required remains steady with a **+0.2%** increase for 2023 Q1. **DF Required** increased by **+6.7%** over the quarter. Proportion across each region has remained steady.

Global CCP Collateral (Required) - Grand Total
2022 Q1 to 2023 Q1 (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.



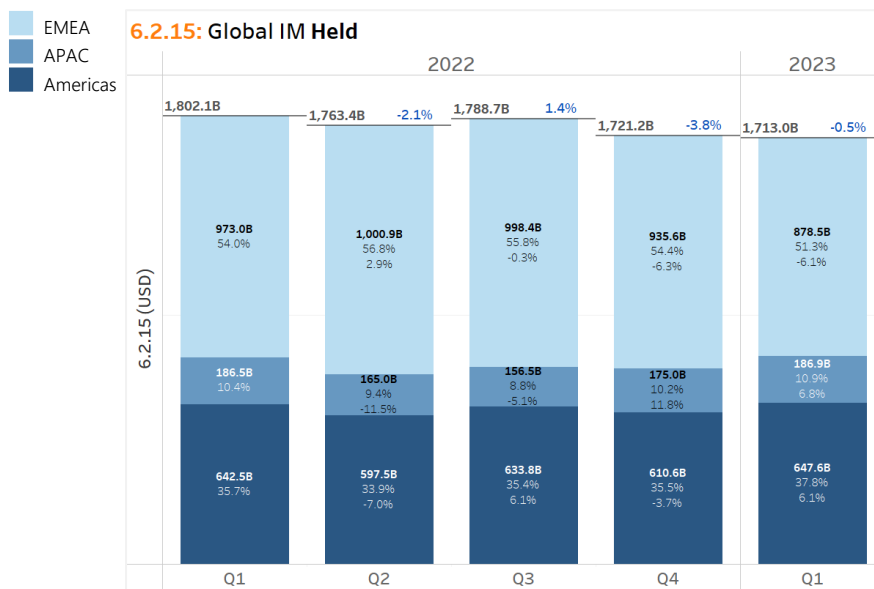
The chart opposite (4.1.4: *Global DF Required*) indicates the total amount of default fund contributions in total for the CCPs by their clearing members across the respective regions which is reported at the quarter-end under disclosure 4.1.4 in the CCP Public Quantitative Disclosures.

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.

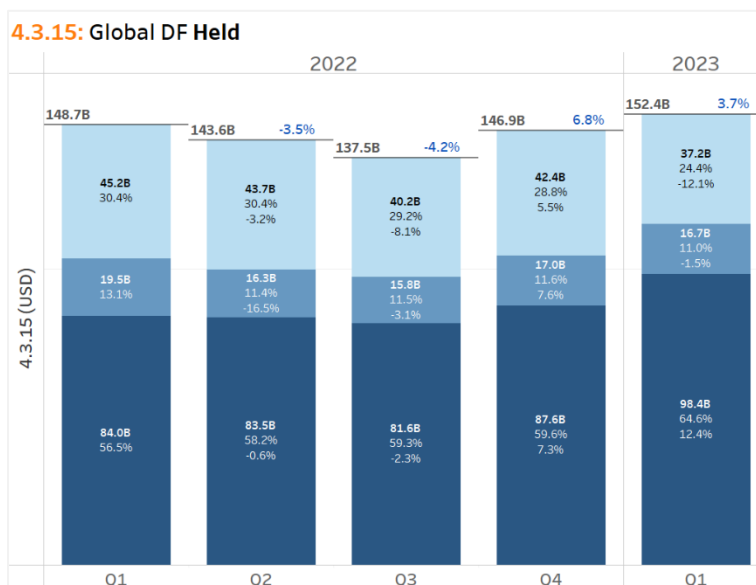
More information regarding the CCP lines of defence can be found on the CCP12 website [here](#).

Total IM Held decreased by **-0.5%** for 2023 Q1, compared to **DF Held** which increased by **+3.7%**. Distribution of IM Held is consistently the largest for EMEA, followed by Americas & APAC.

Global CCP Collateral (Held) (PostHaircut) - Grand Total
2022 Q1 to 2023 Q1 (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..



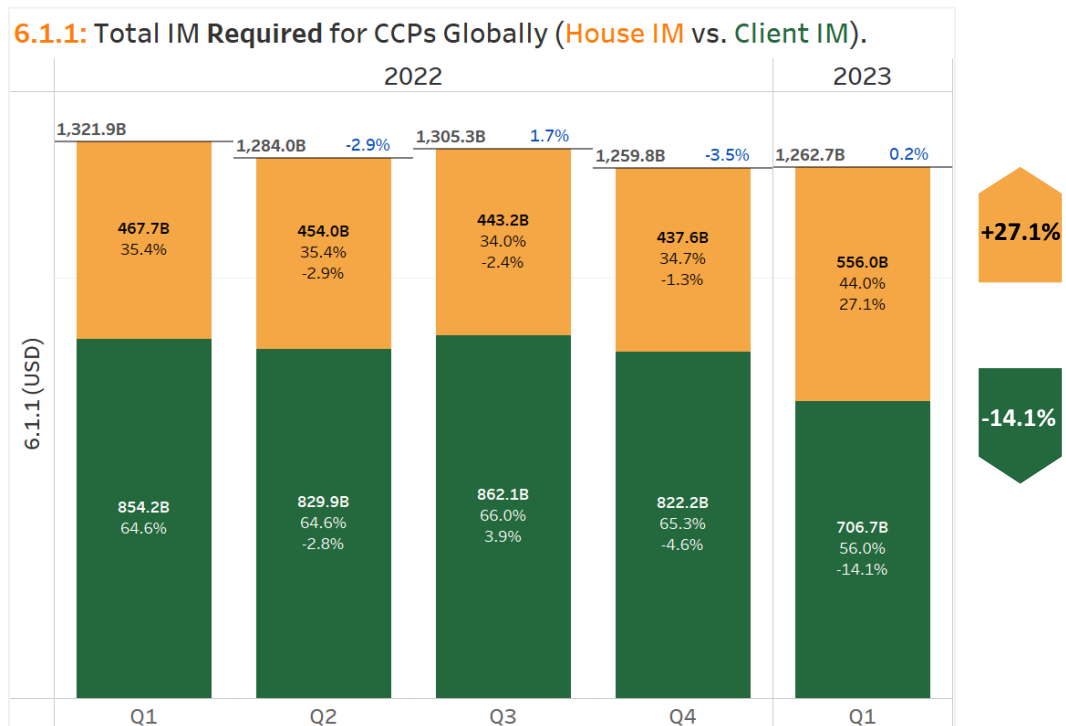
The chart opposite (4.3.15: *Global DF Held*) indicates the total amount of default fund contributions in total for the CCPs by their clearing members across the respective regions which is reported at the quarter-end under disclosure 4.3.15 in the CCP Public Quantitative Disclosures.

From the House IM vs Client IM split, House IM increased by **+27.1%**, compared to Client IM which decreased by **-14.1%**. House IM accounted for 44.0% of the margin requirement, compared to 56.0% for Client IM.

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

Disclosure (6.1.1):
2022 Q1 to 2023 Q1 (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 450.3B for 2023 Q1, representing a decrease of **-2.4%** from 2022 Q4.

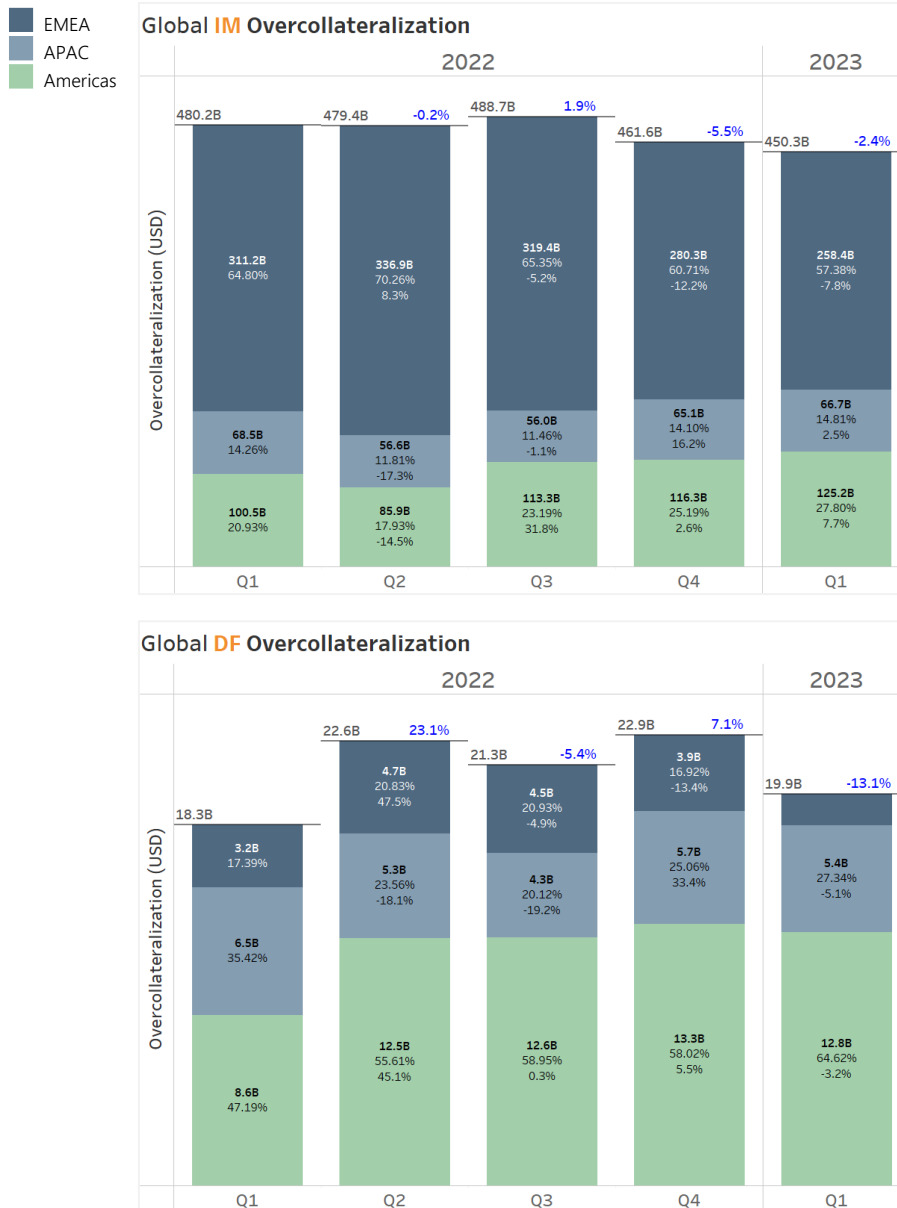
Global DF Overcollateralization was USD 19.9B for 2023 Q1, representing a decrease of **-13.1%** from 2022 Q4.

Global CCP IM and DF Overcollateralization*

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

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

2022 Q1 to 2023 Q1 (USD B, %)

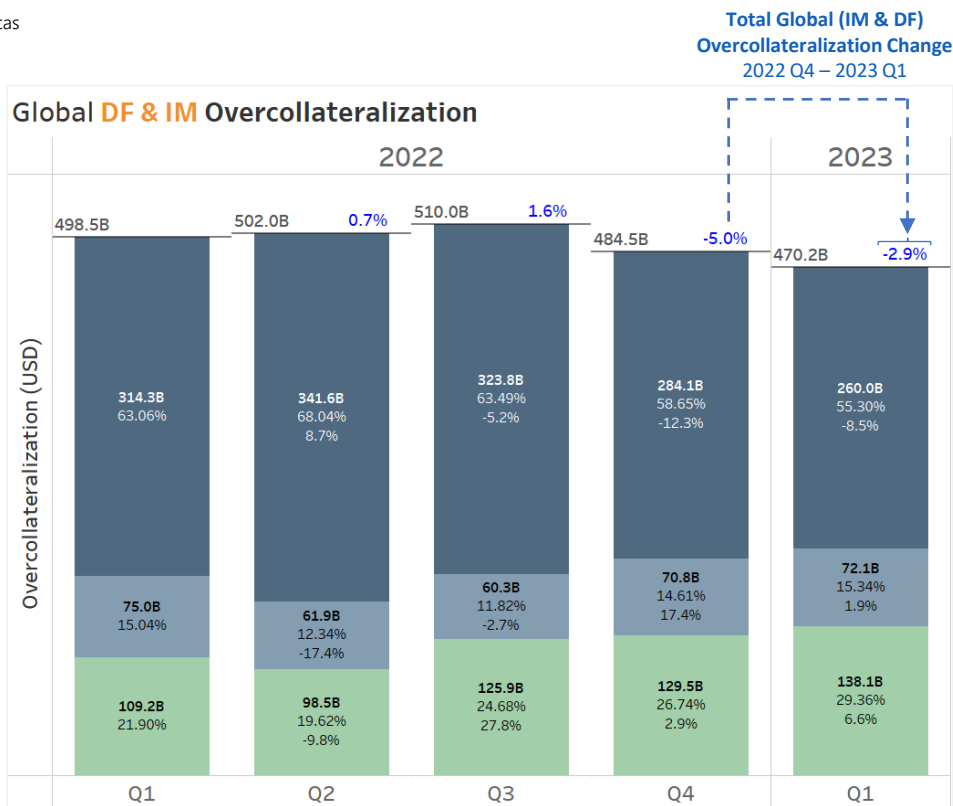


*IM OC calculated as (6.2.15 Held Post-Haircut) - (6.1.1 Required). DF OC calculated as (4.3.15 Held Post-Haircut) - (4.1.4 Required). (Only Post-Haircut values used for Held values). OC: Overcollateralization.

Total Overcollateralization* was **USD 470.2B** for 2023 Q1, representing a decrease of **-2.9%** from the previous quarter.

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) 2022 Q1 to 2023 Q1 (USD B, %)

- EMEA
- APAC
- Americas



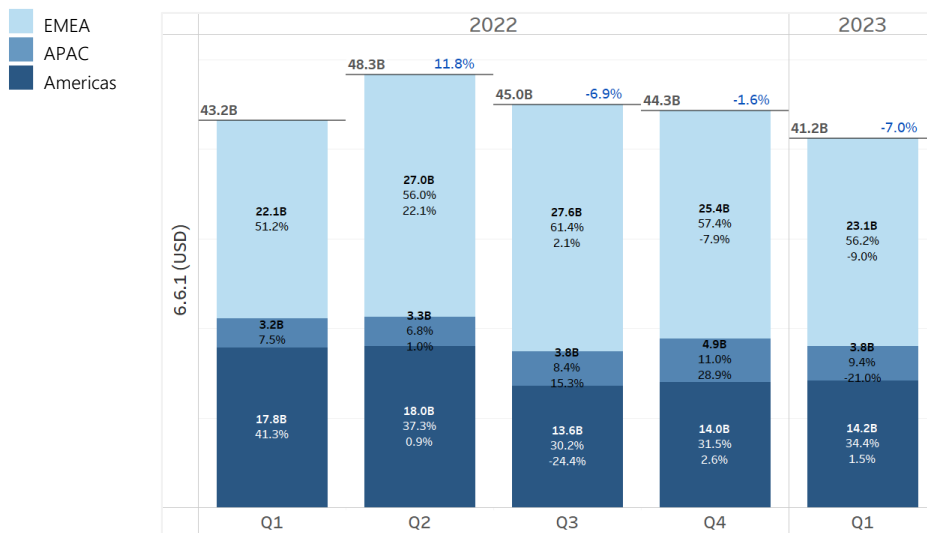
The chart above (*Global CCP Overcollateralization (IM and DF Held PostHaircut)*) indicates an overview of the IM and DF overcollateralization per region, reported at the quarter-end.

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 PostHaircut 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 **-7.0%** in 2023 Q1.

Sum of Average Total Global VM Paid to the CCP by participants each business day[†] Disclosure (6.6.1) 2022 Q1 to 2023 Q1 (USD B, %)

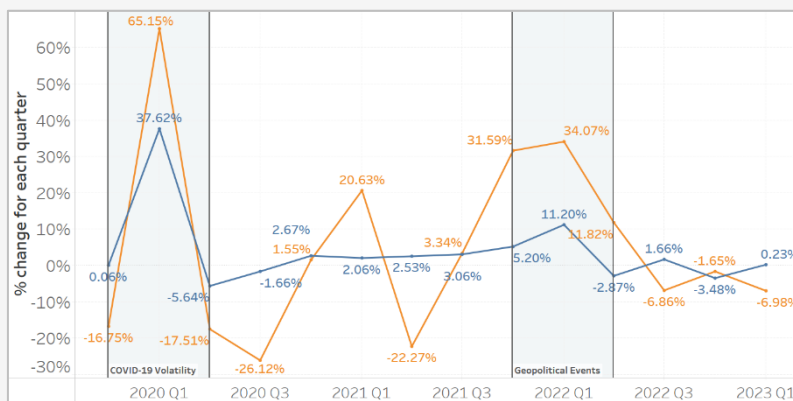


The chart opposite, (6.6.1: Sum of Average Total Global VM Paid to the CCP by Participants Each Business Day) indicates the sum total flow of the average variation margin through global CCPs split by region.

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[†] 2019 Q4 to 2023 Q1 (% 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).

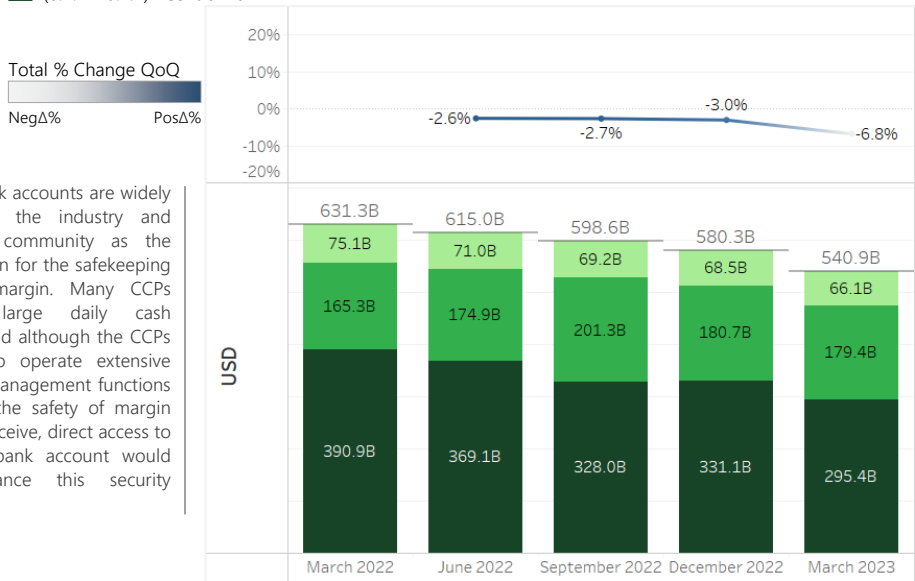
It is important to note that during extreme volatility periods such as the CC* or 2022 Q1 geopolitical turmoil, global volatility indices (e.g., VIX, VSTOXX and NIKKEI VI), have seen much higher increases in comparison. [Please see the CCP12 Annual Markets Review 2020, 2021 and 2022.](#)

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 **-6.8%** for 2023 Q1. 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 2022 Q1 to 2023 Q1 (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†

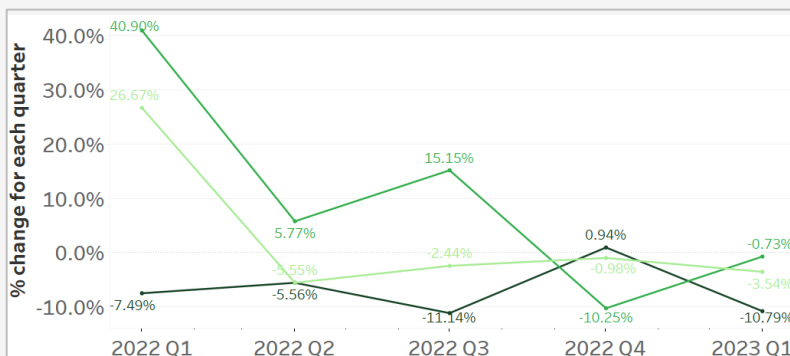


The chart opposite, (6.2.1 – 6.2.4: Global CCP IM (Held) (PostHaircut), Cash Total) provides an overview of the split of IM (Held) deposits at central banks and commercial banks under disclosures 6.2.1 – 6.2.4.

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 2022 Q1 to 2023 Q1 (% change)



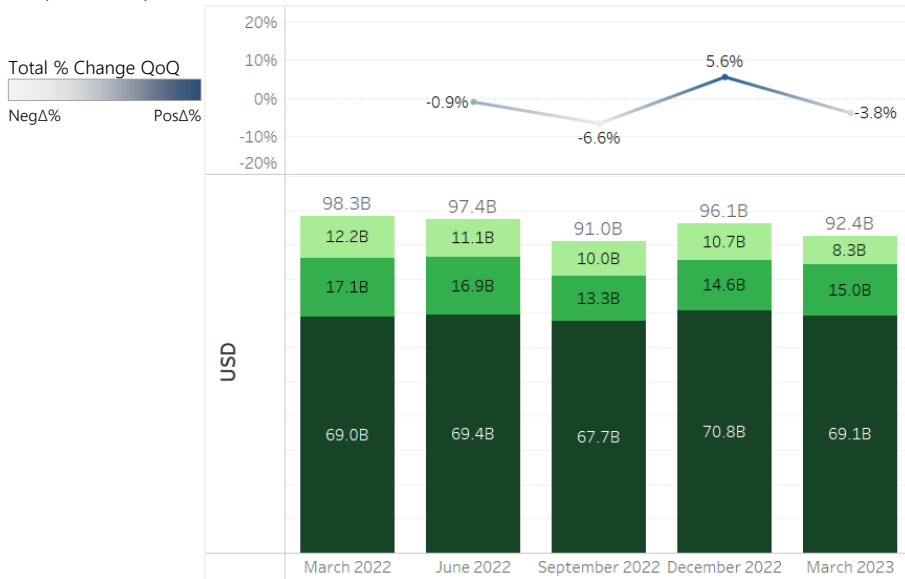
The chart opposite (6.2.1 – 6.2.4: Global Cash IM (Held) (PostHaircut), % Difference QoQ per segment) provides an overview of the quarterly change of IM (Held) deposits.

*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 decreased by **-3.8%** for 2023 Q1. 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 2022 Q1 to 2023 Q1 (USD B, % change QoQ)

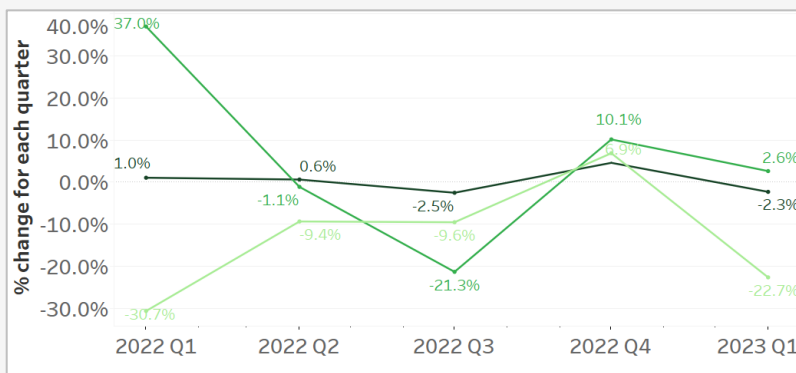
- (4.3.4) Unsecured at Commercial Banks
- (4.3.2) Secured Cash at Commercial Banks (Incl. Reverse Repos)
- (4.3.1 + 4.3.2) Central Bank†



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 2022 Q1 to 2023 Q1 (% change)

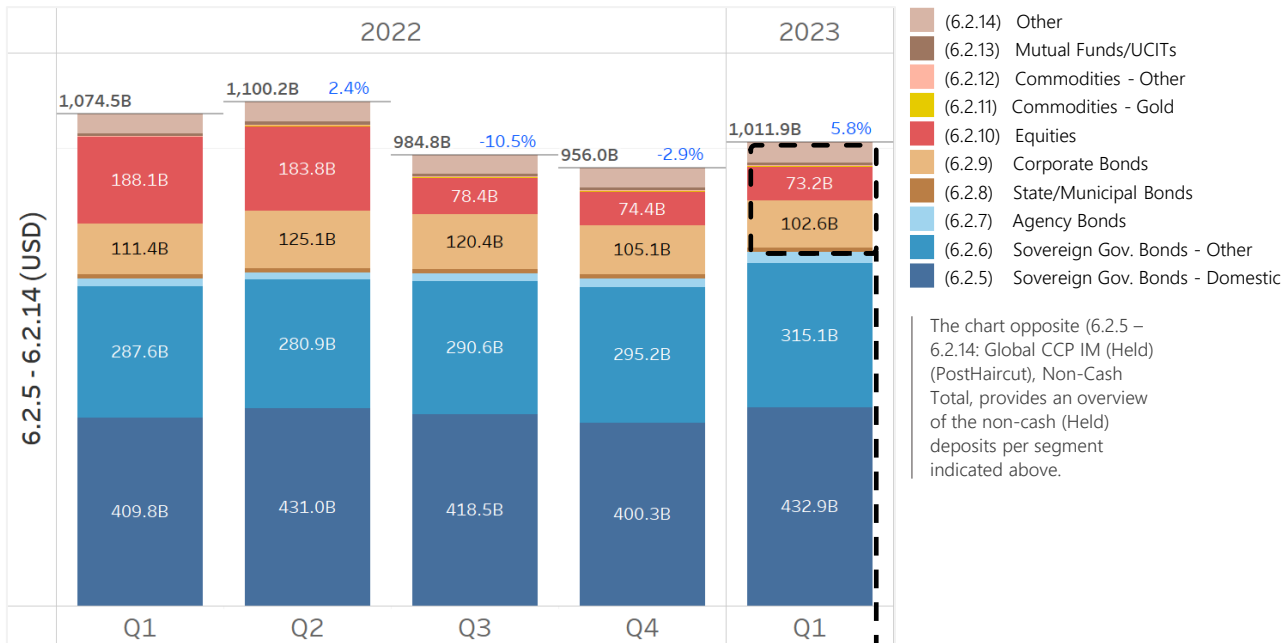


The chart opposite (4.3.1 – 4.3.4: Global Cash DF (Held), % Difference QoQ per segment) provides an overview of the quarterly change of DF (Held) deposits.

*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

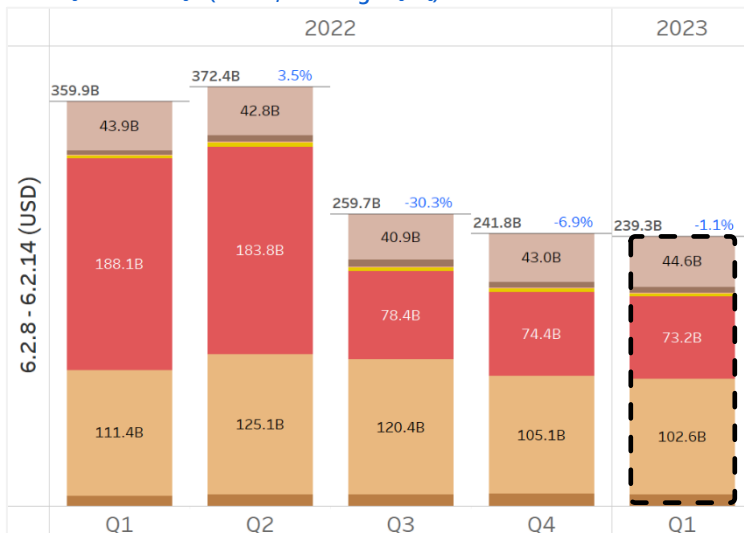
During 2023 Q1, total global **Non-Cash IM Held** increased by **+5.8%**. The split across each segment has remained similar from the previous quarter.

6.2.5 – 6.2.14: Global CCP IM (Held) (PostHaircut), Non-Cash Total 2022 Q1 to 2023 Q1 (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 2022 Q1 to 2023 Q1 (USD B, % change QoQ)

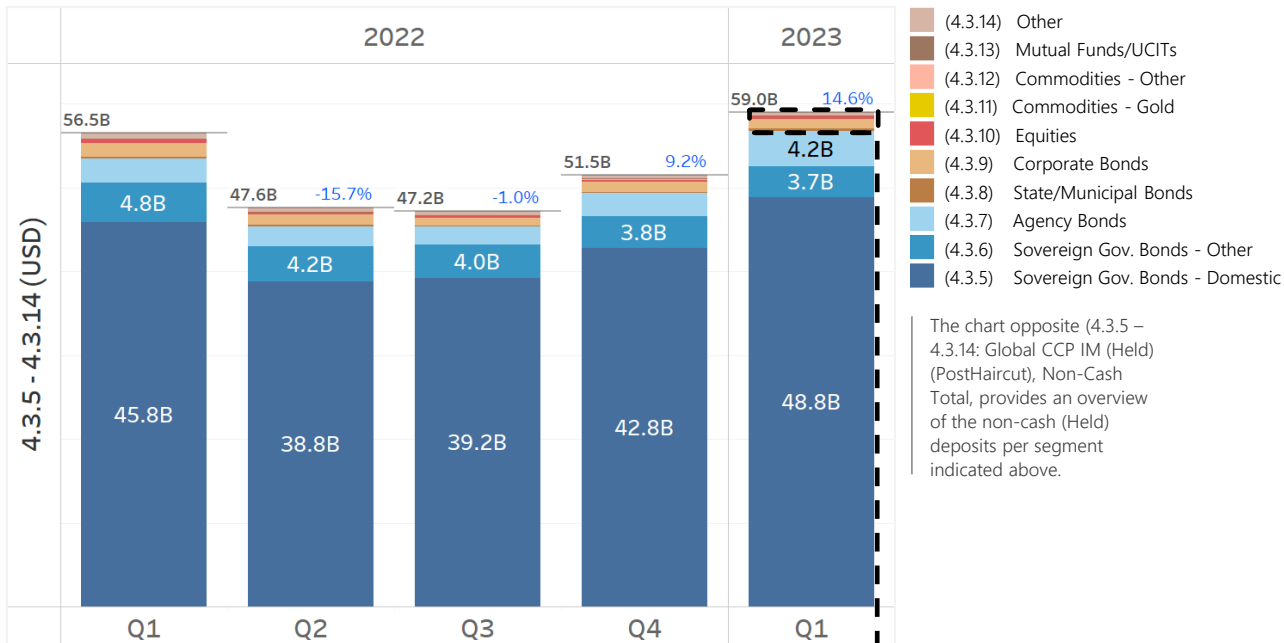


The chart opposite (6.2.8 – 6.2.14: Global CCP IM (Held) (PostHaircut), Non-Cash Total, provides a detailed view of the non-cash (Held) deposits for segments between 6.2.8 and 6.2.14.

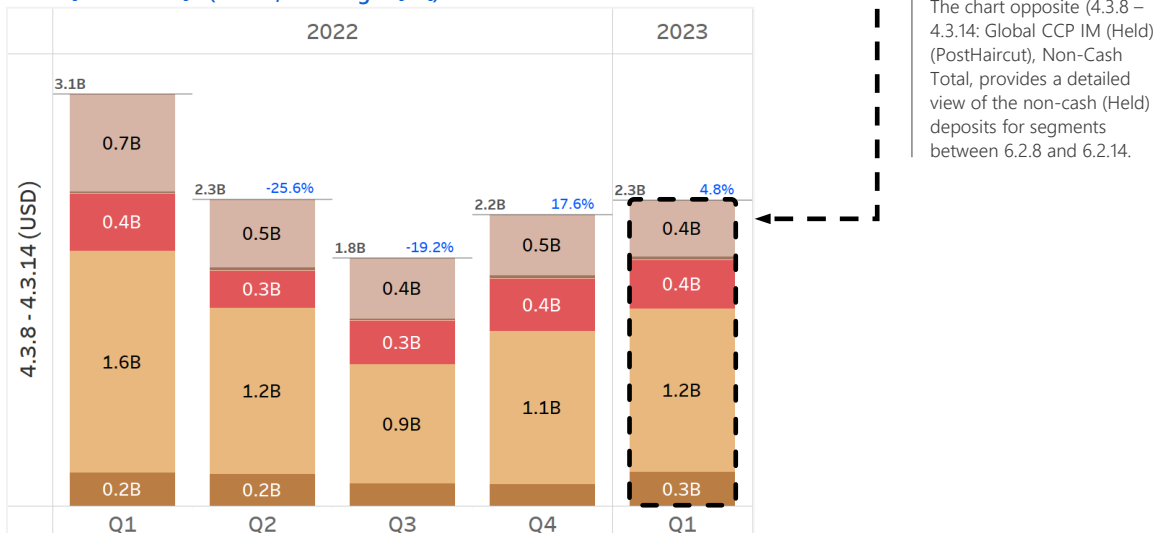
*Figures as of quarter end. Sum of IM Held across 6.2.1 – 6.2.14 is slightly lower than the Total IM Held Values for 6.2.15, due to 1). DTCC have requested that 6.2.15 figures be equivalent to 4.3.15 figures, and 2). OCC 6.2.15 total > sum of 6.2.1 – 6.2.14. TCH provide the full breakdown of 6.2.15 split 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 2023 Q1, total global **Non-Cash DF Held** increased by **+14.6%**. 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 2022 Q1 to 2023 Q1 (USD B, % change QoQ)



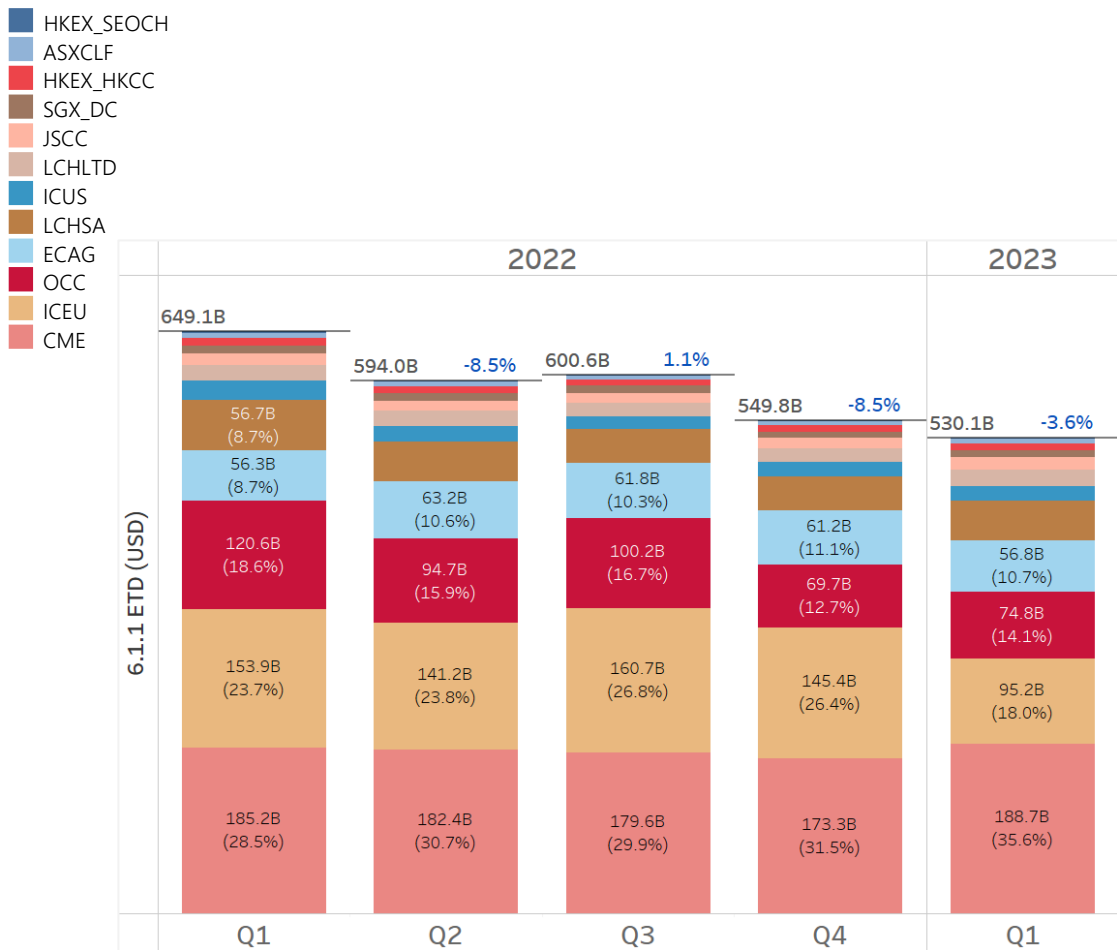
4.3.8 – 4.3.14: Global CCP DF (Held) (PostHaircut), Non-Cash Total 2022 Q1 to 2023 Q1 (USD B, % change QoQ)



*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 2023 Q1 the IM required for ETDs across the following selected 12 CCPs decreased by **-3.6%**. Proportion of IM across each CCP has remained consistent QoQ.

Global CCP IM (Required) Collateral for ETDs across selected CCPs Disclosure (6.1.1)
2022 Q1 to 2023 Q1 (USD B, % change QoQ)

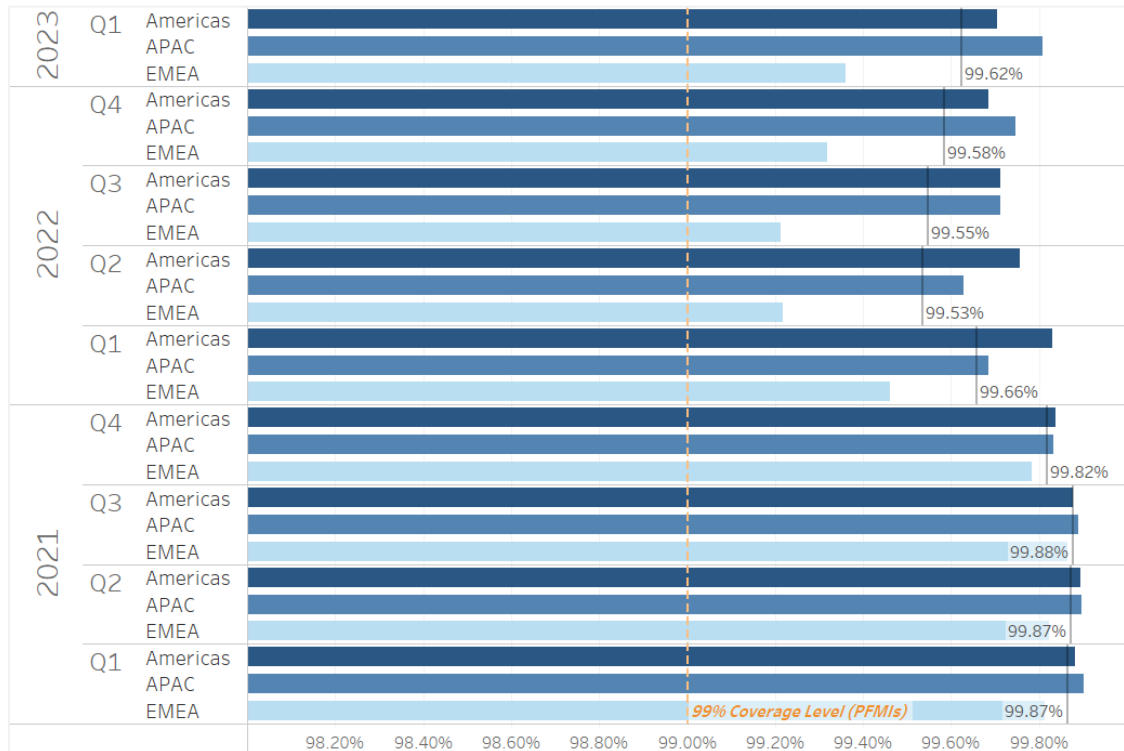


The chart above (6.1.1: Global CCP IM (Required) Collateral for ETDs across selected CCPs) provides a summary of the IM required for ETDs across a number of selected CCPs chosen for a global geographical representation.

Results of backtesting of initial margin (ACL - Achieved Coverage Level) reached 99.62% (on average) across all regions for 2023 Q1, higher than the previous quarter.

Results of backtesting of initial margin – ACL* Disclosure (6.5.3) 2021 Q1 to 2023 Q1 (%)

- EMEA
- APAC
- Americas



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 2023 Q1

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[†]

1 CCP observes a target recovery time of within:	20 mins
2 CCPs observe a target recovery time of within:	45 mins
3 CCP observe a target recovery time of within:	1 hr
46 CCPs observe the standard target recovery time of within:	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 2 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*

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

*CCP12 non-members included in the CCP12 PQD Quarterly Trends Report analysis are clearly indicated

About CCP12

CCP12 is the global association for CCPs, representing 42 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.

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