

# PUBLIC QUANTITATIVE DISCLOSURE

## NEWSLETTER

Q2 / 2019



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**CCP12**

24 October 2019

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## SECTION 1 - INTRODUCTION

The Global Association of Central Counterparties (CCP12) publishes the Public Quantitative Disclosure (PQD) Newsletter to present a panorama of the CCP industry to market participants, relevant authorities and the broader public. The analysis is based on PQD reports published by central counterparties (CCPs) globally under the Principles for Financial Market Infrastructures (PFMI) requirements set by Committee on Payments and Market Infrastructures and the International Organization of Securities Commissions (CPMI-IOSCO). For a full list of the CCPs whose PQD information was used in this report, please see Appendix 1.

CCP12 is a global association of 37 members who operate more than 60 individual CCPs across the Europe/Middle East/Africa (EMEA), Americas, and Asia-Pacific (APAC) regions. CCP12 aims to promote 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.

In 2015, the CPMI-IOSCO published PQD standards for CCPs<sup>1</sup> as an important component of the set of PFMI public disclosure requirements, while also encouraging CCPs to use a common PQD submission template. CCP12 supports CPMI-IOSCO's efforts to improve the level of standardization and transparency of the CCP industry; our members collaboratively worked to create a common PQD template in 2015, and officially released the CCP12 PQD Template in 2017<sup>2</sup>.

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<sup>1</sup> CPMI-IOSCO (2015). Public quantitative disclosure standards for central counterparties. [online] Available from: < <https://www.bis.org/cpmi/publ/d125.htm> >

<sup>2</sup> CCP12 PQD Template: <https://ccp12.org/the-ccp12-template-for-public-quantitative-disclosures-for-ccps-3/>

In this PQD Newsletter, the Q1 and Q2 2019 PQD data sets published by CCP12 members are grouped both by the region (Americas, EMEA or APAC) in which the CCP is located, as well as by the underlying asset classes cleared by the CCP. A number of CCP risk management indicators are examined, including Initial Margin Required, Default Fund Required, Collateral Make-Up of the Initial Margin and Default Fund contributions, and Average Daily Variation Margin. All indicators are measured in US dollar (USD).

#### Updates to the PQD Newsletter

- OTC Clearing Hong Kong Limited (OTC Clear), Hong Kong Securities Clearing Limited (HKSCC) and Takasbank have been added to the PQD data pool; the PQDs for both the previous quarter (Q1 2019) and the relevant quarter (Q2 2019) were added to minimize any resulting jumps in both the quarterly and respective regional splits

## SECTION 2 – PQD KEY INDICATORS

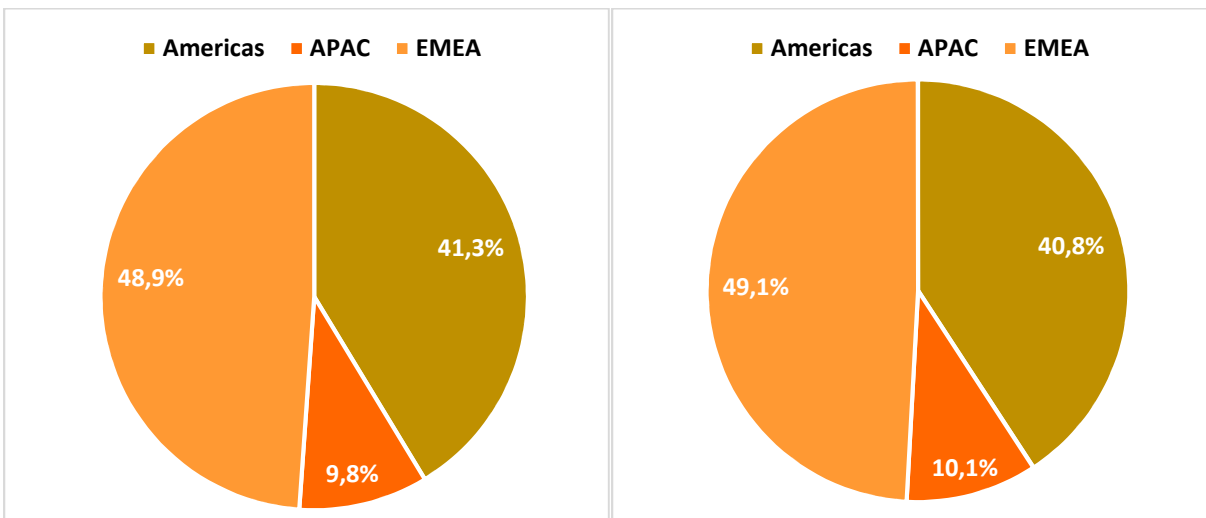
### 2.1 INITIAL MARGIN

#### 2.1.1 INITIAL MARGIN REQUIRED TOTAL

Initial margin (IM) is the collateral required by the CCP to cover potential changes in the value of each participant's position (that is, potential future exposure) over the appropriate closeout period in the event the participant defaults (CPMI-IOSCO, 2012)<sup>3</sup>.

In the CCP12 PQD data set, the required initial margin at the end of Q2 2019 totaled USD 746.12 billion (Chart 1a), of which 41,3% came from the Americas (USD 308.44 billion); 48,9% was from EMEA (USD 364.61 billion), while CCPs in the APAC region accounted for 9,8% (USD 73.07 billion).

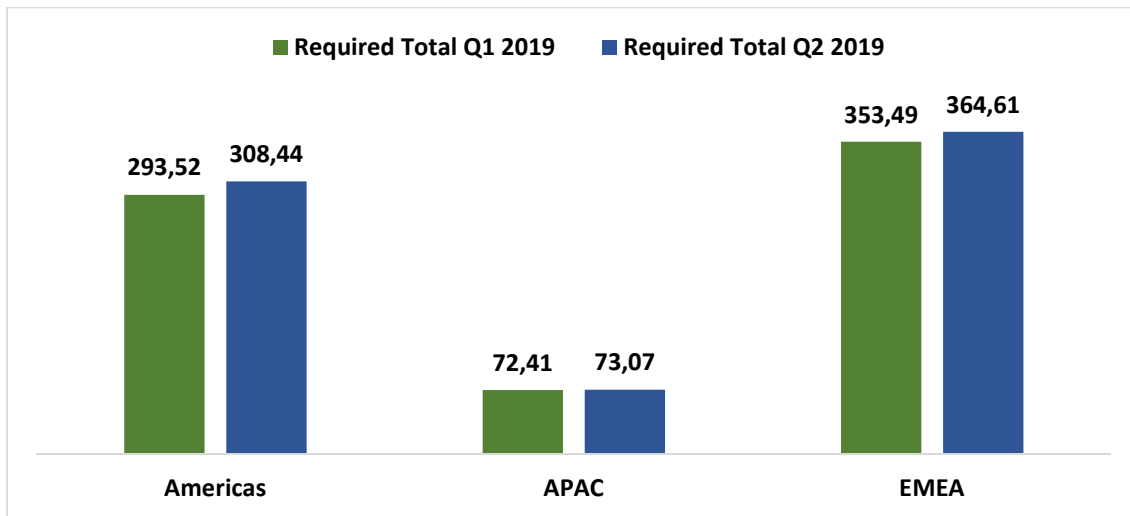
Compared with the data from Q1 2019 (Chart 1b and Chart 2), the required initial margin within the three regions increased and the global total grew by USD 26.69 billion overall, whereas this occurred mainly in the EMEA and Americas region.



**Chart 1a:**  
Initial Margin Required Total – Q2 2019

**Chart 1b:**  
Initial Margin Required Total – Q1 2019

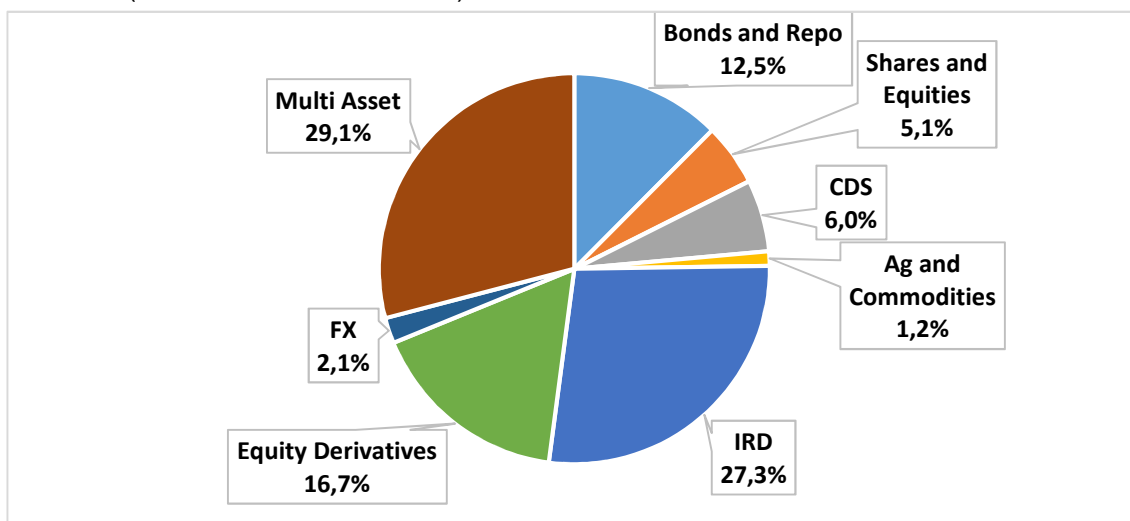
<sup>3</sup> CPSS-IOSCO (2012). *Principles for financial market infrastructures*. [online] Available from: <[https://www.bis.org/cpmi/publ/d\\_101.htm](https://www.bis.org/cpmi/publ/d_101.htm)>



**Chart 2:**

**Initial Margin Required Total in USD billion – Q2 2019 vs. Q1 2019**

In contrast to a geographical split, the initial margin can also be broken down by asset class (Chart 3). 29,1% (USD 216.82 billion) of the required initial margin is used to cover a Multi Asset class (Diversified/Other), where the initial margin encompasses multiple asset classes across the various CCP clearing services. Interest Rate Derivatives (IRD) come in second at 27,3% (USD 203.97 billion), followed by IM for Equity Derivatives at 16,7% (USD 124.69 billion). Next in order are Bonds and Repo (12,5%; USD 93.01 billion), Credit Default Swaps (CDS) (6,0%; USD 44.52 billion), Shares and Equities (5,1%; USD 38.31 billion), Foreign Exchange (FX) (2,1%; 15.91 billion), and Agriculture and Commodities (1,2%; USD 8.90 billion).



**Chart 3:**

**Asset Class Split of Total Required Initial Margin – Q2 2019**

In comparison to the Q1 2019 figures (Chart 4) the main increases occurred in the asset classes IRD (+10,85%), Bonds and Repo (+9,40%) and Shares and Equities (+5,47%). Decreases of -6,08% in the asset class AG and Commodities and of -3,97% in the asset class Equity Derivatives are also important to note.

Asset Class	Q1 2019	Q2 2019	+ / -
Bonds and Repo	85.02	93.01	9,40%
Shares and Equities	36.32	38.31	5,47%
CDS	44.64	44,52	-0,26%
Ag and Commodities	9.48	8,90	-6,08%
IRD	184.00	203,97	10,85%
Equity Derivatives	129.84	124,69	-3,97%
FX	16.05	15,91	-0,91%
Multi Asset	214.07	216,82	1,28%

Chart 4:

**Asset Class Split Total Required Initial Margin in USD billion Q1 2019 vs. Q2 2019**

## 2.1.2 INITIAL MARGIN REQUIRED HOUSE/CLIENTS TOTAL

Initial margin requirements can apply to both clearing members' own accounts (i.e. house or proprietary account), and/or those of their client.

Asset Class	House Total	Client Total
Bonds and Repo	82,53	10,48
Shares and Equities	18,79	19,06
CDS	21,76	22,76
Ag and Commodities	3,33	5,52
IRD	88,29	115,68
Equity Derivatives	27,80	96,88
FX	15,82	0,08
Multi Asset	41,14	165,63

Chart 5:

**Global Asset Class Split for House & Client Initial Margin Total in USD billion – Q2 20194**

<sup>4</sup> Sum of IM Required split by House/Clients Total is lower than Total IM required, due to no breakdown of IM required of NSE Clearing Limited and Hong Kong Securities Clearing Limited (HKSCC)

By the end of Q2 2019 (Chart 6, reporting CCPs' total initial margin requirements for clients in America tripled the requirements for clearing members (client USD 231.02 billion vs. house USD 77.42 billion). The APAC (client USD 30.40 billion vs. house USD 32.16 billion) and EMEA (client USD 174.68 billion vs. house USD 189.93 billion) regions on the other hand had higher requirements for clearing members. The global asset class splits for the house and client IM totals can be found in the table above (Chart 5):

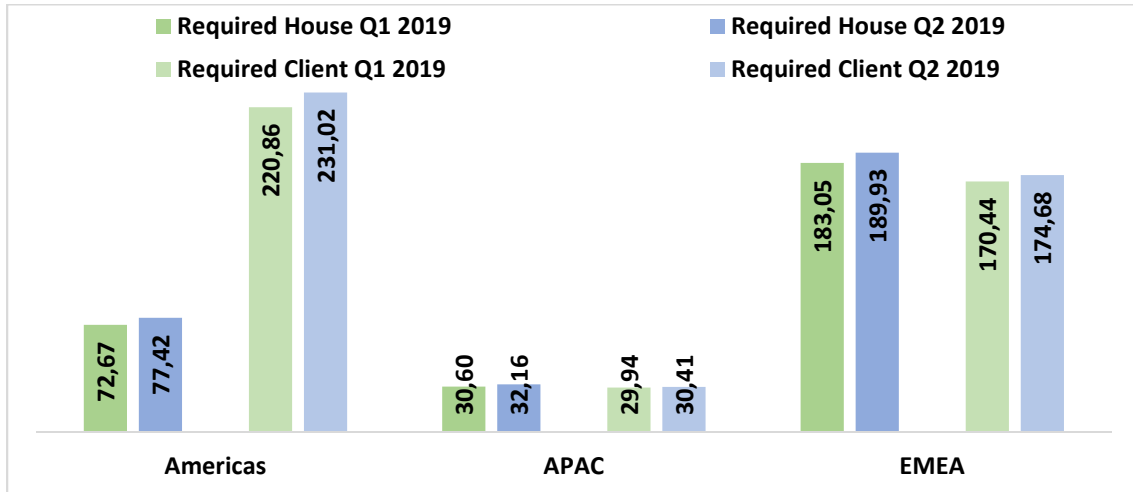


Chart 6:

Initial Margin Required House/Clients Total in USD billion – Q1 2019 vs. Q2 2019<sup>5</sup>

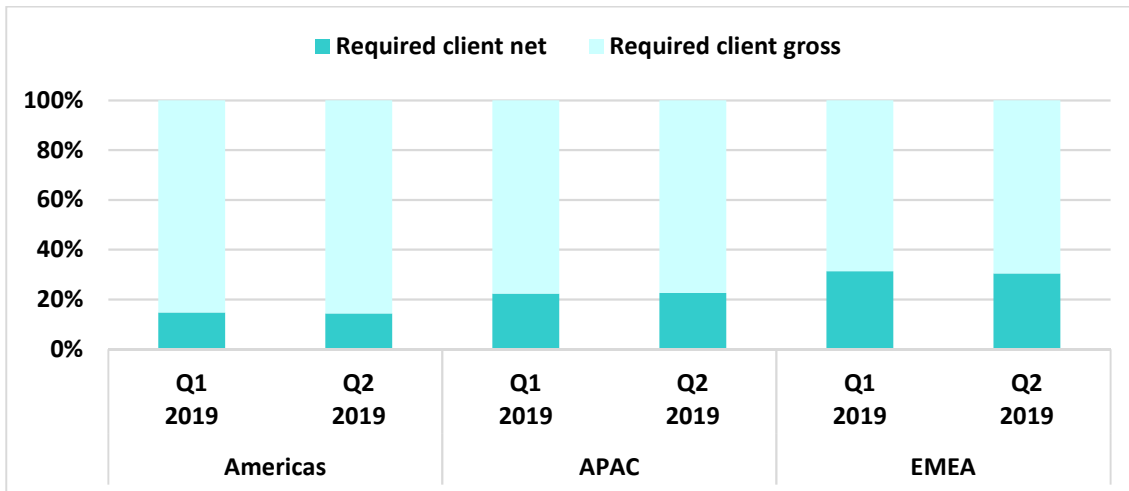


Chart 7:

Initial Margin Required Client Net and Gross in USD billion – Q1 2019 vs. Q2 2019

<sup>5</sup> Sum of IM Required split by House/Clients Total is lower than Total IM required, due to no breakdown of IM required of NSE Clearing Limited and Hong Kong Securities Clearing Limited (HKSCC)



### 2.1.3 INITIAL MARGIN REQUIRED CLIENTS NET/GROSS

Under CPMI-IOSCO PQD requirements, CCPs should clarify whether initial margin for the positions of indirect participants must be provided for each indirect participant’s own position (i.e. required client gross), or for the net position of a group of indirect participants (i.e. required client net) (CPMI-IOSCO, 2015).

Overall, the majority of clients’ initial margin required by reporting CCPs were collected on a gross basis. As of the end of Q2 2019, the comparison between gross and net basis in Americas was a respective USD 197.88 billion vs. USD 33.14 billion; in EMEA, USD 121.59 billion (gross) vs. USD 53.09 billion (net); and in APAC, USD 23.55 billion (gross) vs. USD 6.86 billion (net). The global asset class splits for the client net and client gross totals can be found in the table below (Chart 8):

<b>Asset Class</b>	<b>Client Gross</b>	<b>Client Net</b>
Bonds and Repo	<b>1.04</b>	<b>9.43</b>
Shares and Equities	<b>6.19</b>	<b>12.87</b>
CDS	<b>22.76</b>	<b>0.00</b>
Ag and Commodities	<b>0.43</b>	<b>5.09</b>
IRD	<b>106.84</b>	<b>8.84</b>
Equity Derivatives	<b>76.99</b>	<b>19.89</b>
FX	<b>0.08</b>	<b>0.00</b>
Multi Asset	<b>154.51</b>	<b>11.13</b>

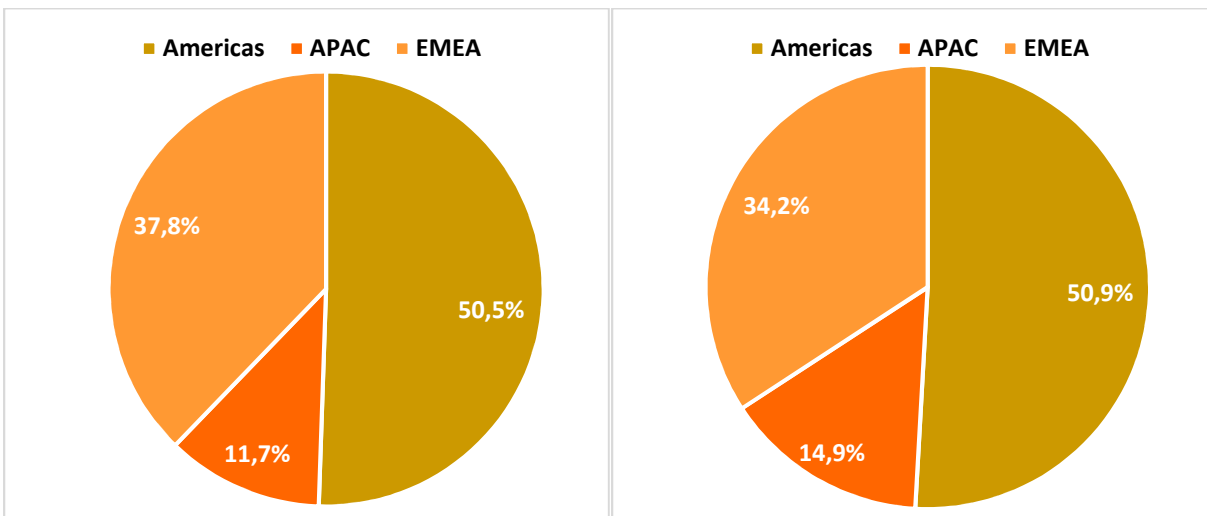
**Chart 8:**

**Asset Class Split for Client Gross and Net Initial Margin Total in USD billion – Q2 2018**

## 2.2 DEFAULT FUND

### 2.2.1 DEFAULT FUND REQUIRED

Default fund (DF) is one of the components of the pre-funded financial resources provided by participants, used to allocate any losses arising in the event that one or more participants defaults on their obligations to the FMI and the resources provided by the defaulting party (or parties) are not sufficient to cover such losses (CPMI-IOSCO, 2015).



**Chart 9a:**

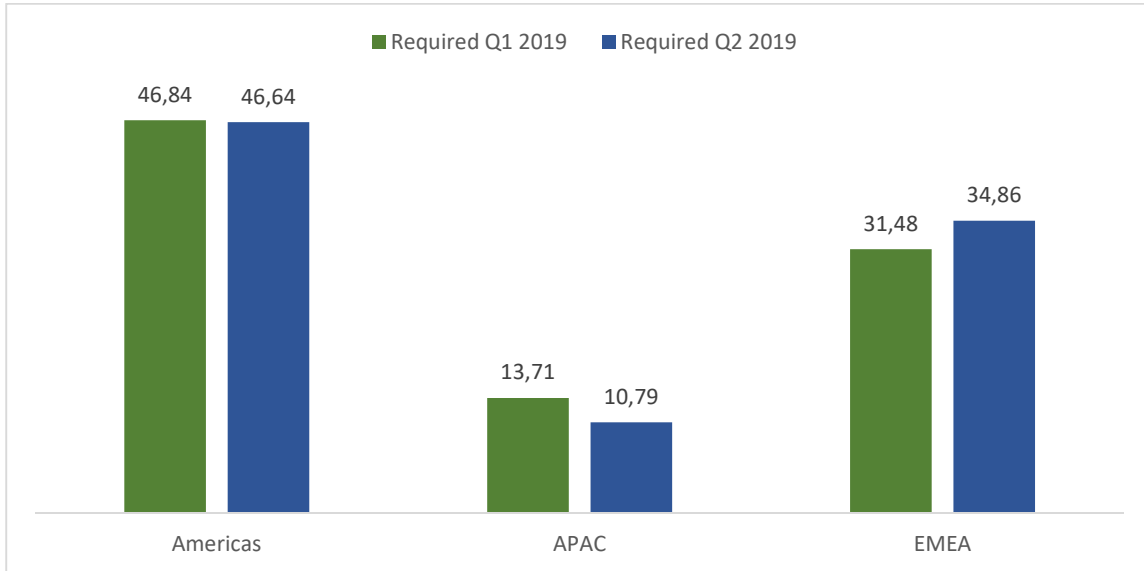
**Default Fund Required – Q2 2019**

**Chart 9b:**

**Default Fund Required – Q1 2019**

The Americas, which made up 50,5% of the total figure, had the largest default fund requirement at the end of 2019 Q2 (USD 46.64 billion); EMEA was next with 37.8% (USD 34.86 billion), followed by APAC with 11,7% (USD 10.79 billion) (Chart 9a).

For Q1 2018, the Americas made up 50,9% of the total figure with USD 46.84 billion; in EMEA the default fund required was USD 31.48 billion (34,2%). The APAC region makes 14,9% with USD 13.71 billion (Chart 9b and Chart 10).



**Chart 10:**  
**Default Fund Required in USD billion – Q1 2019 vs. Q2 2019**

## 2.3 COLLATERAL MAKEUP OF IM / DF

While members are required to post a set amount of initial margin and default fund contribution, the makeup of the collateral posted may have flexibility subject to the schedule of the CCP. The collateral can be made up of a combination of cash and non-cash collateral, and can be held at a variety of locations; the global totals can be seen below:

Collateral Posted in the Form of		Initial Margin	Default Fund
<b>Cash</b>	At Central Bank of Issue	11,0%	34,6%
	At Other Central Bank	0,3%	0,0%
	Secured Cash (Reverse Repo)	10,6%	15,1%
	Unsecured at Commercial Banks	5,2%	10,6%
<b>Non-Cash</b>	Sovereign Gov't Bonds - Domestic	35,8%	29,5%
	Sovereign Gov't Bonds - Foreign	17,9%	3,8%
	Agency Bonds	1,4%	4,4%
	State/Municipal Bonds	0,3%	0,2%
	Corporate Bonds	6,1%	0,7%
	Equities	8,2%	0,3%
	Mutual Funds/UCITS	0,0%	0,0%
	Commodities - Gold	0,0%	0,0%
	Commodities - Other	0,2%	0,0%
	Other	3,0%	0,7%

Chart 11:

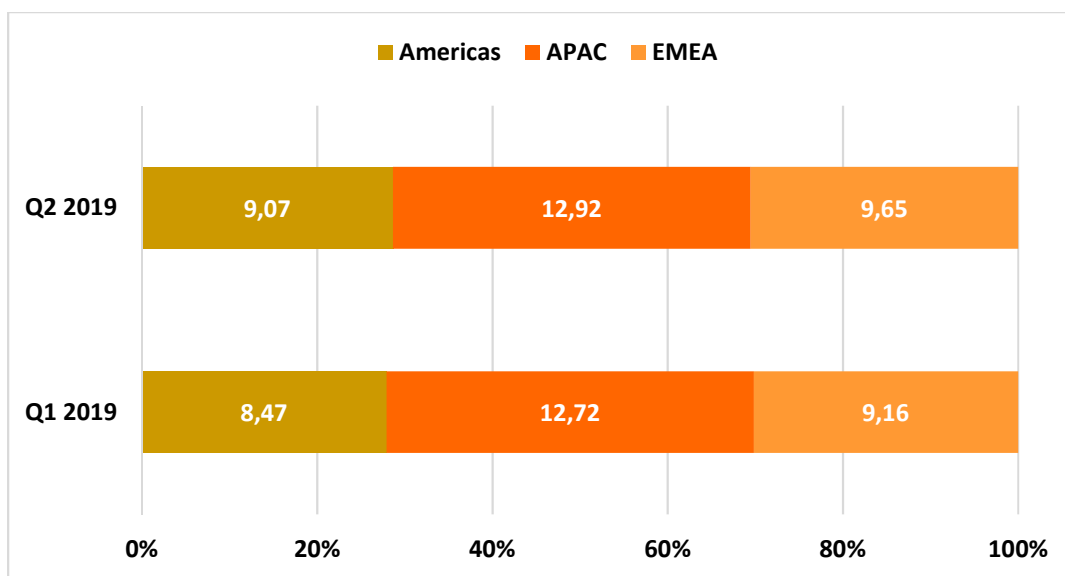
Collateral Makeup of Initial Margin and Default Fund – Q2 2019

## 2.4 MARK-TO-MARKET

### 2.4.1 AVERAGE DAILY VARIATION MARGIN

Variation Margin can be defined as funds that are collected and paid out to reflect current exposures resulting from actual changes in market prices (CPMI-IOSCO, 2012).

In the CCP12 PQD data set, a majority of the total variation margin paid through the CCP by participants on each business day during the second quarter of 2019 was more or less evenly generated in the Americas (28,7%, USD 9.07 billion) and EMEA (30,5%; USD 9.65 billion) region. In APAC however, approx. 10% more (40,8%, USD 12.92 billion) was generated. Compared to Q1 2019 a slight proportionate increase over all three regions can be seen.



**Chart 12:**  
Average Daily Variation Margin in USD billion – Q1 2019 vs. Q2 2019

## APPENDIX 1 – THE LIST OF CCPS AND REGIONS

<b>ORGANISATION<sup>6</sup></b>	<b>REGION</b>	<b>Website for PQD Reports</b>
B3 - Brasil Bolsa Balcao	Americas	<a href="http://www.b3.com.br/en_us/products-and-services/clearing-and-settlement/clearing/">http://www.b3.com.br/en_us/products-and-services/clearing-and-settlement/clearing/</a>
Chicago Mercantile Exchange Group	Americas	<a href="http://www.cmegroup.com/clearing/cpmi-iosco-reporting.html">http://www.cmegroup.com/clearing/cpmi-iosco-reporting.html</a>
Depository Trust & Clearing Corporation	Americas	<a href="http://www.dtcc.com/en/legal/policy-and-compliance">http://www.dtcc.com/en/legal/policy-and-compliance</a>
Intercontinental Exchange (Credit)	Americas	<a href="https://www.theice.com/clear-credit/regulation">https://www.theice.com/clear-credit/regulation</a>
Intercontinental Exchange (US)	Americas	<a href="https://www.theice.com/clear-us/regulation#quantitative-disclosures">https://www.theice.com/clear-us/regulation#quantitative-disclosures</a>
Intercontinental Exchange (NGX)	Americas	<a href="https://www.theice.com/ngx/documents">https://www.theice.com/ngx/documents</a>
Minneapolis Grain Exchange	Americas	<a href="http://www.mgex.com/regulation.html">http://www.mgex.com/regulation.html</a>
The Options Clearing Corporation	Americas	<a href="https://www.theocc.com/about/corporate-information/pfmi-disclosures.jsp">https://www.theocc.com/about/corporate-information/pfmi-disclosures.jsp</a>
TMX Group	Americas	<a href="http://www.cdcc.ca/publications_qtdFiles_en">http://www.cdcc.ca/publications_qtdFiles_en</a>
ASX Limited (Clear)	APAC	<a href="http://www.asx.com.au/regulation/regulatory-compliance/asx-clear.htm">http://www.asx.com.au/regulation/regulatory-compliance/asx-clear.htm</a>
ASX Limited (Futures)	APAC	<a href="https://www.asx.com.au/regulation/regulatory-compliance/asx-clear-futures.htm">https://www.asx.com.au/regulation/regulatory-compliance/asx-clear-futures.htm</a>
Hong Kong Exchanges & Clearing Ltd (HKCC)	APAC	<a href="https://www.hkex.com.hk/eng/market/clr/SpecialTopics/IOSCO.htm">https://www.hkex.com.hk/eng/market/clr/SpecialTopics/IOSCO.htm</a>
Hong Kong Exchanges & Clearing Ltd (SEOCH)	APAC	<a href="https://www.hkex.com.hk/eng/market/clr/SpecialTopics/IOSCO.htm">https://www.hkex.com.hk/eng/market/clr/SpecialTopics/IOSCO.htm</a>
Hong Kong Exchanges & Clearing Ltd (OTCC)	APAC	<a href="https://www.hkex.com.hk/Services/Clearing/OTCC-Clear/PFMI?sc_lang=en">https://www.hkex.com.hk/Services/Clearing/OTCC-Clear/PFMI?sc_lang=en</a>
Hong Kong Exchanges & Clearing Ltd (HKSCC)	APAC	<a href="https://www.hkex.com.hk/Services/Clearing/Securities/PFMI?sc_lang=en">https://www.hkex.com.hk/Services/Clearing/Securities/PFMI?sc_lang=en</a>
Intercontinental Exchange (Singapore)	APAC	<a href="https://www.theice.com/clear-singapore/regulation#quantitative-disclosures">https://www.theice.com/clear-singapore/regulation#quantitative-disclosures</a>
Japan Securities Clearing Corporation	APAC	<a href="https://www.jpx.co.jp/jsccl/en/company/fmi-pdf2.html">https://www.jpx.co.jp/jsccl/en/company/fmi-pdf2.html</a>
Korea Exchange	APAC	<a href="https://global.krx.co.kr/contents/GLB/02/0202/0202020203/GLB0202020203.jsp">https://global.krx.co.kr/contents/GLB/02/0202/0202020203/GLB0202020203.jsp</a>
NSE Clearing Limited	APAC	<a href="https://www.nscclindia.com/NSCCL/disclosures/nsccl_dis_pfmi.htm">https://www.nscclindia.com/NSCCL/disclosures/nsccl_dis_pfmi.htm</a>
Shanghai Clearing House	APAC	<a href="http://www.shclearing.com/zcyj/jgyz/pfmi/">http://www.shclearing.com/zcyj/jgyz/pfmi/</a>

<sup>6</sup> Dark blue highlight signifies a CCP whose PQD data is new to the data pool as of Q1 2019 or Q2 2019

<b>ORGANISATION<sup>7</sup></b>	<b>REGION</b>	<b>Website for PQD Reports</b>
Singapore Exchange Ltd (DC)	APAC	<a href="https://www2.sgx.com/regulation/principles-financial-market-infrastructures-disclosure">https://www2.sgx.com/regulation/principles-financial-market-infrastructures-disclosure</a>
Singapore Exchange Ltd (CDP)	APAC	<a href="https://www2.sgx.com/regulation/principles-financial-market-infrastructures-disclosure">https://www2.sgx.com/regulation/principles-financial-market-infrastructures-disclosure</a>
Thailand Clearing House Co. Ltd.	APAC	<a href="https://www.set.or.th/tch/en/pfmi/pfmi_disclosure.html">https://www.set.or.th/tch/en/pfmi/pfmi_disclosure.html</a>
The Clearing Corporation of India Ltd	APAC	<a href="https://www.ccilindia.com/RiskManagement/Pages/PFMIDisclosures.aspx">https://www.ccilindia.com/RiskManagement/Pages/PFMIDisclosures.aspx</a>
London Stock Exchange Group Ltd (CC&G)	EMEA	<a href="https://www.lseg.com/markets-products-and-services/post-trade-services/ccp-services/ccg-english-version/products-and-services/statistics/iosco-quantitative-disclosure">https://www.lseg.com/markets-products-and-services/post-trade-services/ccp-services/ccg-english-version/products-and-services/statistics/iosco-quantitative-disclosure</a>
Dubai Commodities Clearing Corporation	EMEA	<a href="http://www.dccc.co.ae/">http://www.dccc.co.ae/</a>
Eurex Clearing	EMEA	<a href="http://www.eurexclearing.com/clearing-en/about-us/regulatory-standards">http://www.eurexclearing.com/clearing-en/about-us/regulatory-standards</a>
Hong Kong Exchanges & Clearing Ltd (LME)	EMEA	<a href="https://www.lme.com/en-GB/LME-Clear/Technology/Reports/CPMI-IOSCO-Disclosure">https://www.lme.com/en-GB/LME-Clear/Technology/Reports/CPMI-IOSCO-Disclosure</a>
Intercontinental Exchange (Europe)	EMEA	<a href="https://www.theice.com/clear-europe/regulation#quantitative-disclosures">https://www.theice.com/clear-europe/regulation#quantitative-disclosures</a>
Intercontinental Exchange (Netherlands)	EMEA	<a href="https://www.theice.com/clear-netherlands/regulation#quantitative-disclosures">https://www.theice.com/clear-netherlands/regulation#quantitative-disclosures</a>
Johannesburg Stock Exchange	EMEA	<a href="https://www.jse.co.za/services/post-trade-services/risk-management/quantitative-disclosures">https://www.jse.co.za/services/post-trade-services/risk-management/quantitative-disclosures</a>
KDPW_CCP S.A.	EMEA	<a href="http://www.kdpwccp.pl/en/Members/Transparency/Pages/Terms_of_Use.aspx">http://www.kdpwccp.pl/en/Members/Transparency/Pages/Terms_of_Use.aspx</a>
London Stock Exchange Group Ltd (LCH LTD)	EMEA	<a href="https://www.lch.com/resources/rules-and-regulations/ccp-disclosures">https://www.lch.com/resources/rules-and-regulations/ccp-disclosures</a>
London Stock Exchange Group Ltd (LCH SA)	EMEA	<a href="https://www.lch.com/resources/rules-and-regulations/ccp-disclosures">https://www.lch.com/resources/rules-and-regulations/ccp-disclosures</a>
Nasdaq Clearing	EMEA	<a href="https://business.nasdaq.com/trade/clearing/nasdaq-clearing/about-nasdaq-clearing/index.html">https://business.nasdaq.com/trade/clearing/nasdaq-clearing/about-nasdaq-clearing/index.html</a>
Central Counterparty National Clearing Centre	EMEA	<a href="http://www.nkcbank.com/viewCatalog.do?menuKey=461">http://www.nkcbank.com/viewCatalog.do?menuKey=461</a>
Takasbank	EMEA	<a href="https://www.takasbank.com.tr/en/services/services-provided/central-counterparty-ccp/takasbank-cpmi-iosco-quantitative-disclosure">https://www.takasbank.com.tr/en/services/services-provided/central-counterparty-ccp/takasbank-cpmi-iosco-quantitative-disclosure</a>

<sup>7</sup> Dark blue highlight signifies a CCP whose PQD data is new to the data pool as of Q1 2019 or Q2 2019

## APPENDIX 2 – SUMMARIZED RESULTS FOR Q3 2018 VS. Q4 2018

<b>Americas</b>		Q1 2019	Q2 2019	+ / -
<b>Initial Margin</b>	Required house	USD 72.665.290.753,11	USD 77.417.724.865,53	6,54%
	Required client net	USD 32.417.899.613,74	USD 33.140.153.981,61	2,23%
	Required client gross	USD 188.440.336.887,18	USD 197.884.247.411,26	5,01%
	Required total	USD 293.523.527.254,03	USD 308.442.126.258,39	5,08%
	Held (pre-haircut)	USD 365.931.077.519,38	USD 376.797.515.543,35	2,97%
	Held (post-haircut)	USD 307.686.411.192,24	USD 366.626.250.569,46	19,16%
<b>Default Fund</b>	Required	USD 46.839.707.087,39	USD 46.643.006.247,64	-0,42%
	Posted (pre-haircut)	USD 54.157.877.155,77	USD 56.817.233.365,98	4,91%
	Posted (post haircut)	USD 53.192.895.945,84	USD 55.460.384.954,91	4,26%
<b>Mark-to-Market</b>	Average total VM paid to CCP each business day	USD 8.469.793.543,25	USD 9.068.584.669,66	7,07%

<b>APAC</b>		Q1 2019	Q2 2019	+ / -
<b>Initial Margin</b>	Required house	USD 30.601.101.662,84	USD 32.160.618.573,04	5,10%
	Required client net	USD 6.676.534.568,45	USD 6.859.627.357,44	2,74%
	Required client gross	USD 23.268.136.312,99	USD 23.549.692.294,01	1,21%
	Required total	USD 72.414.153.211,33	USD 73.068.559.854,82	0,90%
	Held (pre-haircut)	USD 166.023.559.765,93	USD 172.682.483.397,00	4,01%
	Held (post-haircut)	USD 153.344.789.376,36	USD 159.447.839.804,11	3,98%
<b>Default Fund</b>	Required	USD 13.708.050.718,90	USD 10.786.669.628,51	-21,31%
	Posted (pre-haircut)	USD 17.325.176.015,51	USD 16.094.008.628,69	-7,11%
	Posted (post haircut)	USD 17.066.741.506,27	USD 15.804.505.933,41	-7,40%
<b>Mark-to-Market</b>	Average total VM paid to CCP each business day	USD 12.720.072.981,28	USD 12.921.835.361,16	1,59%



<b>EMEA</b>		<b>Q1 2019</b>	<b>Q2 2019</b>	<b>+ / -</b>
<b>Initial Margin</b>	<b>Required house</b>	USD 183.054.582.977,79	USD 189.928.537.338,12	3,76%
	<b>Required client net</b>	USD 53.293.307.578,55	USD 53.093.575.498,66	-0,37%
	<b>Required client gross</b>	USD 117.142.724.403,64	USD 121.587.508.621,20	3,79%
	<b>Required total</b>	USD 353.490.614.959,98	USD 364.609.621.457,97	3,15%
	<b>Held (pre-haircut)</b>	USD 626.591.178.777,46	USD 664.609.302.128,39	6,07%
	<b>Held (post-haircut)</b>	USD 533.649.958.056,99	USD 562.195.411.372,01	5,35%
<b>Default Fund</b>	<b>Required</b>	USD 31.480.568.213,72	USD 34.861.794.479,15	10,74%
	<b>Posted (pre-haircut)</b>	USD 33.707.458.363,13	USD 37.184.216.018,07	10,31%
	<b>Posted (post haircut)</b>	USD 33.322.397.995,00	USD 36.752.848.222,50	10,29%
<b>Mark-to-Market</b>	<b>Average total VM paid to CCP each business day</b>	USD 183.054.582.977,79	USD 189.928.537.338,12	3,76%

<b>Global</b>		<b>Q1 2019</b>	<b>Q2 2019</b>	<b>+ / -</b>
<b>Initial Margin</b>	<b>Required house</b>	USD 286.320.975.393,75	USD 299.506.880.776,69	4,61%
	<b>Required client net</b>	USD 92.387.741.760,74	USD 93.093.356.837,71	0,76%
	<b>Required client gross</b>	USD 328.851.197.603,82	USD 343.021.448.326,46	4,31%
	<b>Required total</b>	USD 719.428.295.425,35	USD 746.120.307.571,18	3,71%
	<b>Held (pre-haircut)</b>	USD 1.158.545.816.062,77	USD 1.214.089.301.068,73	4,79%
	<b>Held (post-haircut)</b>	USD 994.681.158.625,58	USD 1.088.269.501.745,58	9,41%
<b>Default Fund</b>	<b>Required</b>	USD 92.028.326.020,01	USD 92.291.470.355,30	0,29%
	<b>Posted (pre-haircut)</b>	USD 105.190.511.534,41	USD 110.095.458.012,74	4,66%
	<b>Posted (post haircut)</b>	USD 103.582.035.447,11	USD 108.017.739.110,83	4,28%
<b>Mark-to-Market</b>	<b>Average total VM paid to CCP each business day</b>	USD 30.345.257.197,65	USD 31.643.658.904,70	4,28%

## APPENDIX 3 - INDICATORS

NO.	INDICATOR	DEFINITION
1	<b>Initial margin (IM)</b>	Collateral that is collected to cover potential changes in the value of each participant's position (that is, potential future exposure) over the appropriate closeout period in the event the participant defaults. (CPMI-IOSCO, 2012) <sup>8</sup> .
1.1	<b>IM Required house</b>	This term indicates the total Initial Margin Requirements of a CCP for clearing members (i.e. excluding their clients).
1.2	<b>IM Required client net/client gross</b>	Collecting margin on a gross basis means that the amount of margin a participant must post to the CCP on behalf of its customers is the sum of the amounts of margin required for each such customer. Collecting margin on a net basis means that the participant may, in calculating the amount of margin it must post to the CCP on behalf of its customers, offset the amounts of margin associated with the portfolios of different customers (CPMI-IOSCO, 2012). Under PQD requirements, CCPs should clarify whether Initial Margin Requirements for their clients are under client gross structure, or client net structure, or both.
1.3	<b>IM Required total</b>	This term indicates all the initial margin required by CCPs.
2	<b>Default Fund (DF)</b>	A fund, comprising pre-funded financial resources provided by participants, to allocate any losses arising in the event that one or more participants defaults on their obligations to the FMI and resources provided by the defaulting party (or parties) are not sufficient to cover such losses (CPMI-IOSCO, 2015).
2.1	<b>DF Required</b>	The total prefunded default fund contributions from clearing members required by CCPs.
3	<b>Collateral makeup of IM / DF</b>	Initial Margin and Default Fund contributions can be made up of (1) Cash at a central bank, (2) secured cash i.e. reverse repo, (3) unsecured cash at a commercial bank, (4) domestic and (5) foreign sovereign government bonds, (6) agency bonds, (7) state/municipal bonds, (8) corporate bonds, (9) equities, (10) mutual funds/UCITs, commodities (11) gold or (12) other, and (13) other.
4	<b>Mark-to-Market enforced by CCP</b>	This value calculated by the average total variation margin paid to the CCP by participants on each business day over the period multiplied by the number of business days during that period. Variation Margin can be defined as funds that are collected and paid out to reflect current exposures resulting from actual changes in market prices (CPMI-IOSCO, 2012). The higher amount of Mark-to-Market enforced by CCP indicates the more liquidity requirement for clearing members to cover mark-to-market losses.

<sup>8</sup> CPSS-IOSCO (2012). *Principles for financial market infrastructures*. [online] Available from: <  
[https://www.bis.org/cpmi/publ/d\\_101.htm](https://www.bis.org/cpmi/publ/d_101.htm) >

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## APPENDIX 5 - CCP12 MEMBERSHIP



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